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TELEPHONY

THE JOURNAL OF THE TELEPHONE INDUSTRY

CONVENTION REPORT ISSUE

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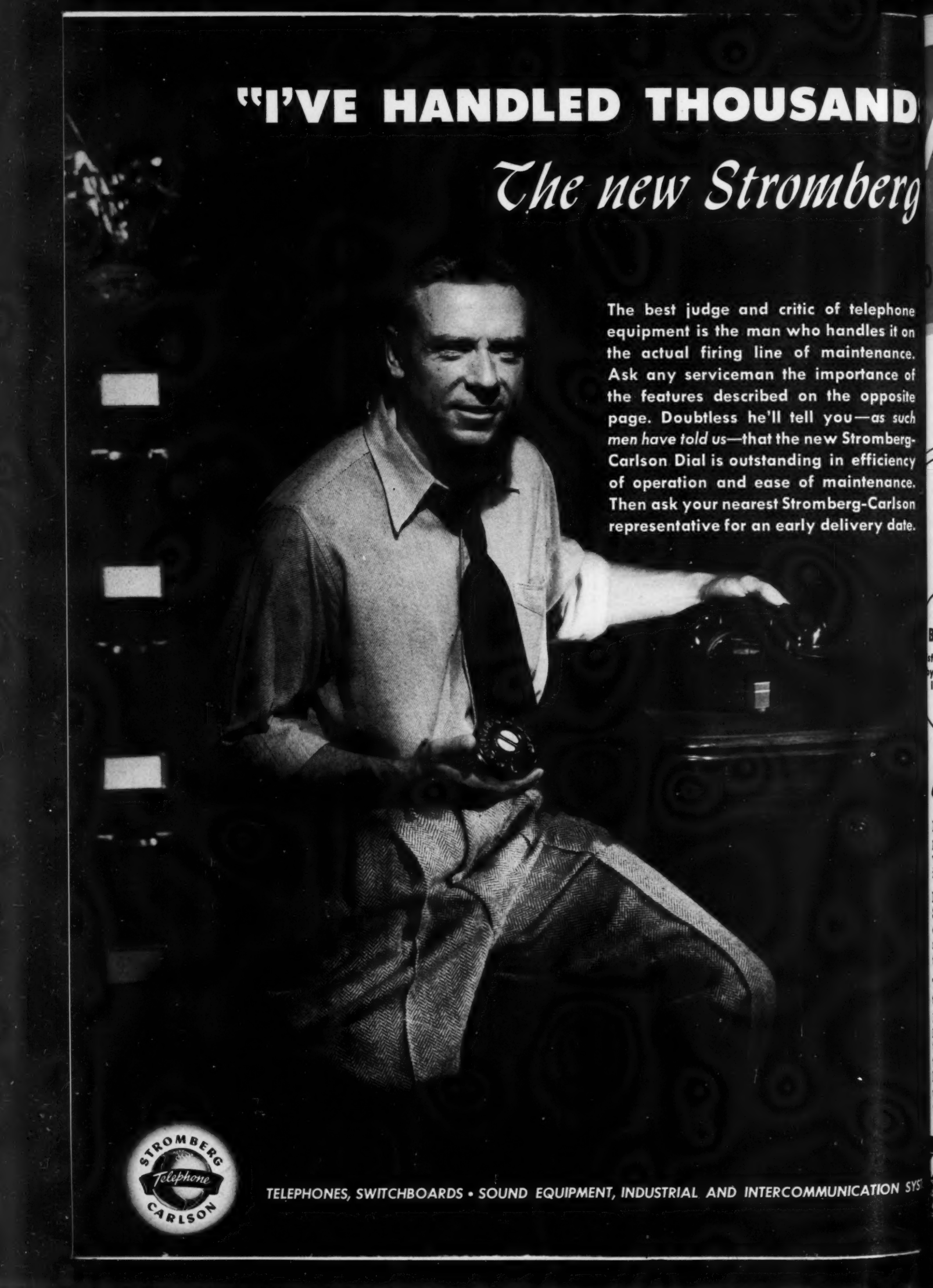

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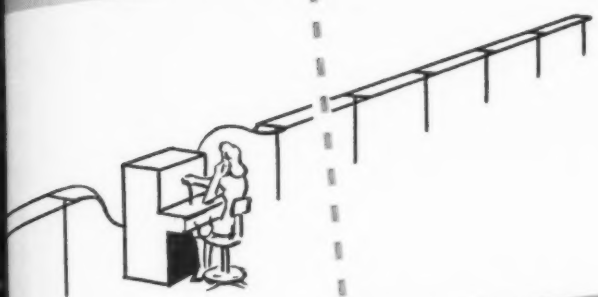

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FLASHES AND PLUGS

A BOON TO HOTELS. H. G. Baker, clerk at the Abbey Hotel, Portland, Ore., has invented a wire frame to go around wall telephones in hotel rooms to hold a writing pad, so that the guest will not be tempted to make notes on the wallpaper. The frame fits tightly over the telephones and requires no nails or screws.

• • •

BASEBALL AND BRINE. Samuel Guptill is a Canadian baseball fan. He is also a deep sea diver. Nevertheless, when the Seal Cove Atoms of Grand Manan played an exhibition game with the Saint John Dodgers he was able to combine vocation and avocation. Down at the bottom of the sea, while working at a sardine weir site, this baseball aficionado enjoyed a broadcast of the contest. Assistants on the surface kept him tuned in through wires from a radio on a boat to earphones attached to his diver's helmet.

• • •

DON'T BURN YOUR CANDLE AT BOTH ENDS. The poet who gave this sage advice wasn't thinking of bookies particularly. But a Far Rockaway, N. Y., bookmaker, caught recording bets by candle light in a restaurant telephone booth, admits the bard had something there.

• • •

SNAFU. United States authorities in Tokyo are giving Japanese telephone operators formal lessons in how to mispronounce their own language.

They're doing it as part of special English-language courses they've organized for long distance operators.

A lot of the long distance calls made in Japan nowadays are by Allied occupation personnel, and any resemblance between the way they pronounce Japanese place names and the way the Japanese pronounce them is apt to be purely coincidental.

So the vocabulary the operators are being taught includes names as the Allies commonly mispronounce them.

• • •

HUMANS? HO HUM. After waiting for 24 hours at the top of a 30-ft. telephone pole in Newark, N. J., while all sorts of rescue work went on below, a coffee-colored alley cat took matters into his own paws by sliding non-stop down the pole. Here's what tabby had to wait through.

The police emergency squad thought the matter was a Humane Society task. The Humane Society said it was for the telephone company, which referred the matter to public service, which said an aerial ladder from the fire department would do the trick.

But the fire department had only one not in immediate need, and even that was tied up at a Fire Prevention Week display. Public service sent out a lineman, who arrived just in time to check a passerby from mounting an improvised extention ladder being steadied by another passerby. Then the cat got into the act too and saved himself.

• • •

BOOMERANG. Jack Berlau of Columbia, Mo., always answers the telephone by chirping "John's Pawn Shop," or "Bill's Drug Store" and friends sometimes try to pawn off a tuxedo or order a tin of aspirin.

So when Mr. Berlau called a friend—he thought—and the man answered "Joe's Fish Market," the practical joker ordered 90 pounds of fish.

Two hours later 90 pounds of fish arrived at Mr. Berlau's home. The bill was $25.

TELEPHONY

The Journal of the Telephone Industry

October 25, 1947

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USITA FIFTIETH CONVENTION

Draws Record Attendance

By R. C. RENO

THE national Independent telephone association was started off on its second 50 years of service to the telephone industry with enthusiastic applause for its accomplishments during its first half century of life, and encouragement and united support for its future years, by the 2,106 telephone men and women who gathered at the recent Golden Jubilee convention of the United States Independent Telephone Association. The convention was held Oct. 14, 15 and 16 at the Stevens Hotel, Chicago.

The largest group ever to attend a USITA convention celebrated the Golden Anniversary of the national association and paid tribute to the pioneers who have guided the destines of the association and the Independent industry during the last 50 years.

The setting for the convention was in keeping with such a celebration with souvenirs, blown-up photographs, exhibits, etc., reminiscent of the early days of Independent telephony. But, of course, all the convention activity was not centered on the happenings of yesteryear. As the Independents gathered they realized that today, in serving the public, they face some of the most difficult and serious problems ever to confront the industry.

Those in charge of the program recognized that a greater portion of the convention agenda must of necessity deal with those problems, therefore, the entire program was devoted to discussions and addresses on how the industry is solving some of its problems and presenting suggestions as to the solution of others.

The major problem discussed involved the rehabilitation, conversion and expansion of plant to meet the huge demand for telephone service and in incorporating the newest technical developments.

This activity is going forward in the Independent industry as far as the shortages of equipment and manpower will permit, but still another deterent is present which is a subject to which regulatory commissions must give full consideration. Because of ridiculously low rates, many of which were established 25 years ago or longer, the earnings of most Independent companies have been decreased to an alarming level or have disappeared altogether. Under this condition it is impossible for such companies to attract necessary capital to modernize their plants in order to give more and better service.

Convention speakers and those attending the meetings were unanimous in their appeal to commissions to recognize this condition as and when they are petitioned for increased rates by telephone companies.

USITA Treasurer Carl D. Brorein, Tampa, Fla., reported that the association is in sound financial condition and urged members to pay their dues promptly.

The association's secretary, F. D. Ridings, Washington, D. C., stated that there has been a substantial increase in membership and that the USITA represents better than 90 per cent of the stations in the Independent industry. He listed the advantages of being a member of the USITA and urged all Independent companies to join its ranks.

The convention approved several amendments to the association's by-laws, as presented by R. A. Phillips, Lincoln, Neb., chairman of the By-Laws Committee. The amendments brought into accord the association's articles of incorporation and by-laws as they pertain to the number of directors; eliminated a provision heretofore permitting the directors to vote by mail; set the quorum for membership meetings as one-tenth of the votes entitled to be cast in person or by proxy; provided that only representatives of active members of the association are eligible for membership on its board of directors.

The convention re-elected the following directors: J. H. Agee, Lincoln, Neb.; E. M. Blakeslee, Santa Monica, Calif.; B. L. Fisher, Martinsville, Va.; L. W. Hill, Tarboro, N. C.; A. N. Johns, San Francisco, Calif.; R. A. Lumpkin, Mattoon, Ill.; F. R. McBerty, Galion, Ohio; Kelley McNish, Bristol, Tenn.; R. A. Phillips, Lincoln, Neb.; L. F. Roberts, Chicago, Ill.; R. W. Siemund, Chicago, Ill., and J. H. Wright, Jamestown, N. Y. Also elected to the board are C. C. Pearce, Riceville, Ia., and L. F. Shepherd, Lafayette, Ind., to succeed Samuel Tucker,

Thanks, Mr. Blain

Our thanks go to TELEPHONY's technical editor, Ray Blain, who accomplished the herculean task of preparing a pictorial record of the convention. Cameraman Blain needed seven-league boots to get around the 3,500-room Stevens Hotel but he made it and came through as usual. Thanks also to our printers, engravers and TELEPHONY's entire staff whose united efforts bring these valued reports and addresses as our contribution to the telephone industry.

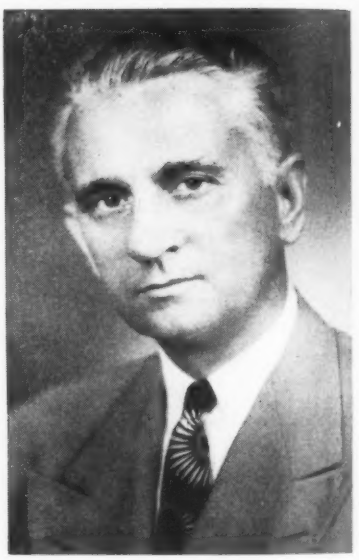
OSCAR BURTON
President

F. E. BOHN
First Vice President

H. V. BOZELL
Second Vice President

CLYDE S. BAILEY
Executive Vice President

CARL D. BROREIN
Treasurer



F. D. RIDINGS
Secretary

Pleasanton, Kan., and C. F. Mason, Santa Monica, Calif., both resigned.

The directors elected the following officers: President, Oscar Burton, Tyler, Tex.; first vice president, F. E. Bohn, Fort Wayne, Ind.; second vice president, H. V. Bozell, New York City; executive vice president, Clyde S. Bailey, Washington, D. C.; treasurer, Carl D. Brorein, Tampa, Fla., and secretary and assistant treasurer, F. D. Ridings, Washington, D. C.

Members of the new executive committee are: Mr. Burton, chairman; Mr. Agee; W. M. Angle, Rochester, N. Y.; F. S. Barnes, Rock Hill, S. C.; C. S. Cadwell, Chicago, Ill.; H. M. Engh, Erie, Pa.; Alden Hart, Abilene, Kan.; L. W. Hill, Tarboro, N. C.; A. N. Johns, San Francisco, Calif.; Mr. Lumpkin, and R. E. Shotts, Chicago, Ill.

The board of directors at its two meetings held during the convention took action on several items of interest to the industry.

It was voted to hold the 1948 Spring Conference on Apr. 12 and 13 at the Edgewater Beach Hotel, Chicago.

The dates for the 1948 annual convention of the association were set for Oct. 12, 13 and 14 at the Stevens Hotel, Chicago.

The board approved membership for the following: *Active members:* United Telephone Co., St. Marys, W. Va.; Brownwood Preserving Co., Louisville, Ky.; Wyoming Valley Equipment Co., Forty-Fort, Pa.; Gray Mfg. Co., Hartford, Conn.; Acorn Insulated Wire Co., Brooklyn, N. Y.; Telecommunications Reports, Washington, D. C.

Associate Members: Sherron Metallic Corp., Brooklyn, N. Y.; Motorola, Inc., Chicago, Ill., and Manford K. Toeppen, New York City.

The USITA sponsored its annual luncheon meeting of state association executives on Oct. 15 at which many subjects concerning association work were discussed. Those appearing on the program were USITA Executive Vice President Bailey, J. C. Crowley, Jr., secretary of the Minnesota Telephone Association; J. B. Haley, secretary, Texas Telephone Association; W. H. Beck, secretary, Indiana Telephone Association; J. E. Byrne, secretary, Wisconsin State Telephone Association; J. G. Hardy, secretary, Illinois Telephone Association; H. M. Stewart, secretary, Georgia Telephone Association, and R. W. Hedrick, secretary, Minnesota Telephone Association.

Another feature of the convention was a short address by Chicago's mayor, Martin Kennelly, who said that since the public demands good service, telephone companies must give it to

them to remain in business. Mayor Kennelly, terming himself a "business man rather than a politician," urged telephone men to "take an interest in your local government where the real business is carried on. You can get along without the Washington men, but not without your city government—in Tyler, Tex., Chicago, or Dixon, Ill. That is where good government starts."

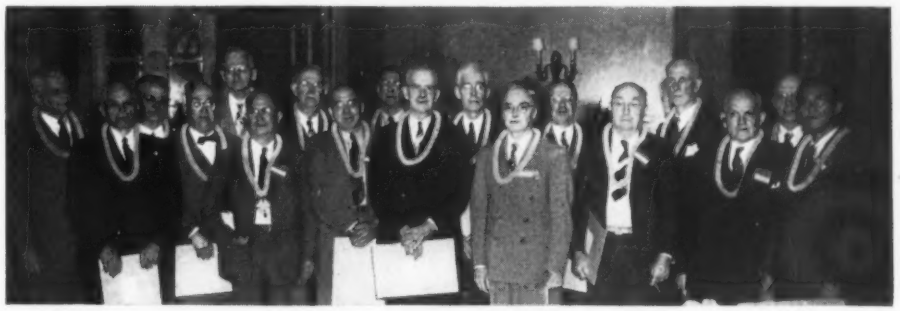
The association presented honorary membership certificates to 37 men and women who have worked 50 years or more in the Independent telephone industry. Those receiving certificates are:

A. F. Adams, Wilmington, Del.; F. K. Aki, Honolulu, Hawaii; G. E. Atkinson, Creston, Ia.; John Ayres, Middletown, N. Y.; C. H. Bookman, Freeport, Ill.; A. B. Clark, Columbus, Neb.; W. S. Clay, Hutchinson, Minn.; L. D. Coltrane, Concorn, N. C.; J. N. Cox, Cookville, Tenn.; J. C. Crowley, Jr., St. Paul, Minn.; W. C. Dillon, Chicago, Ill.; G. M. Dwelle, Lake City, Minn.; Theodore Gary, Kansas City, Mo.; A. D. George, Ashland, Ohio; J. Henry George, Ashland, Ohio; R. E. Gordon, El Paso, Ill.; C. D. Gott, Wellington, Ohio; L. A. Graham, Union Star, Mo.; W. G. Griffin, Bristol, Tenn.; Ole Gullicksen, Chicago, Ill.; J. K. Johnston, Indianapolis, Ind.; C. L. Jones, Athens, Ohio; R. K. Judy, St. Marys, Ohio; J. Smith Lanier, West Point, Ga.; W. E. Lawton, Viroqua, Wis.; J. D. Love, Mt. Vernon, Ohio; H. B. MacMeal, Grand Rapids, Mich.; T. E. Meyer, Lombard, Ill.; E. W. Nash, Damariscotta, Me.; Louis Pitcher, Dixon, Ill.; J. B. Rhodes, Zanesville, Ohio; C. A. Rolfe, Pasadena, Calif.; Sam Severson, Madison, Wis.; A. H. Skinner, Waynesburg, Pa.; Otto Wettstein, Jr., Orlando, Fla.; Bettie I. Williams, Pinckneyville, Ill., and A. R. Workman, Marseilles, Ill.

A resolution was passed by the convention paying tribute to these Pioneers for their "loyalty and fidelity to the Independent industry." The J. A. Balch Chapter (Hawaii) of the Independent Telephone Pioneer Association, through Vice President J. B. Atherton of the Mutual Telephone Co. of Hawaii and other representatives of that company, presented each 50-year Pioneer with a lei, the traditional symbol of Hawaiian welcome.

E. C. Blomeyer, Chicago, veteran Independent leader, was presented with a watch by the USITA in recognition of his 43 years of service to the industry and as a long-time director of the association. It also was presented in appreciation of the article entitled "Fifty Years of Independent Telephony," which Mr. Blomeyer recently prepared for the association and which appeared in a recent issue of TELEPHONY. Mrs. Blomeyer also was presented a watch as a 43rd wedding anniversary present which she and Mr. Blomeyer celebrated during the USITA convention.

The Mutual Telephone Co. of Honolulu, Hawaii, was well represented by this foursome (left to right): J. B. ATHERTON, D. S. GUILD, FRANK AKI, and R. O. BECK.



Group of pioneers who have spent 50 years or more in the Independent telephone industry. They received honorary membership certificates in the USITA. The John A. Balch Chapter (Hawaii) of the Independent Telephone Pioneer Association presented a lei to each pioneer.

No report of a national telephone convention would be complete without appropriate recognition of the part which Independent manufacturers and suppliers played in the event.

At the 1947 convention the headquarters of the manufacturers were thronged every day by those interested in their fine exhibits. As in other years —in fact, throughout the years since the inception of the industry — the manufacturers displayed the latest developments of all phases of the telephone art which held the attention of all branches of the operating end of the business, engineering construction and maintenance. Independent manufacturers have always played a basic part in these annual gatherings of telephone people, and this year was no exception. The opinion was generally expressed that the primary reason for the great success of the bi-centennial convention was the splendid cooperation of the manufacturers and suppliers who spared no effort or expense in making the 1947 meeting the best ever.

Four nationally known speakers—

Photographed at the Independent Telephone Pioneer Association desk are MAYME WORKMAN, executive secretary; JULIA HARMON, until recently assistant secretary-treasurer; DOROTHY BORE, Wilmette, Ill., and J. K. JOHNSTON, secretary and founder of the Pioneer association.

NEW USITA OFFICERS

President
OSCAR BURTON, Tyler, Tex.
Executive Vice President
CLYDE S. BAILEY, Washington, D. C.
First Vice President
F. E. BOHN, Fort Wayne, Ind.
Second Vice President
H. V. BOZELL, New York City
Treasurer
CARL D. BROREIN, Tampa, Fla.
Secretary-Assistant Treasurer
F. D. RIDINGS, Washington, D. C.

Dean J. E. McCarthy, College of Commerce, Notre Dame University; Dr. Frank B. Jewett, formerly president of Bell Telephone Laboratories; Maj. Gen. Manton S. Eddy, chief of information, War Department, and F. G. Clark, general chairman, American Economic Foundation — addressed the convention.

Dean McCarthy presented an analysis of the philosophies and principles underlying and leading to the current unrest and problems between labor and management and emphasized that the vehicle of "our economic salvation and our political future" is "personal responsibility."

Television and the question of how far and in what field radio has a proper part as an alternative to wire lines were discussed by Dr. Jewett. In regard to microwave telephony, Dr. Jewett pointed out that the microwave operations and the paralleling work on coaxial cable, together with the necessary work on terminal apparatus and amplifiers, may "pretty well define how far it is advisable to go in the direction" of an all-purpose telephone plant of great flexibility, both wire and radio, for the numerous communications services sought by the public.

"Since the present technique of ultra high frequency radio and wire guided waves are so nearly alike," he explained, "it seems probable that in many cases the final answer will be determined by questions of cost and reliability rather than by characteristics unique to one of the other methods."

As for television, Dr. Jewett emphasized that television is still in the exploratory stage despite the enormous technical progress that has been made since its first appearance two decades ago. Explaining that the problem now is not really a scientific or technical but rather a commercial one, Dr. Jewett pointed out that only time and much attention will explain the future of television.

NEW USITA DIRECTORS

Re-elected

J. H. AGEE, Lincoln, Neb.
E. M. BLAKESLEE, Santa Monica, Calif.
B. L. FISHER, Martinsville, Va.
L. W. HILL, Tarboro, N. C.
A. N. JOHNS, San Francisco, Calif.
R. A. LUMPKIN, Mattoon, Ill.
F. R. McBERTY, Galion, Ohio
KELLEY McNISH, Bristol, Tenn.
R. A. PHILLIPS, Lincoln, Neb.
L. F. ROBERTS, Chicago, Ill.
R. W. SIEMUND, Chicago, Ill.
J. H. WRIGHT, Jamestown, N. Y.

Elected

C. C. PEARCE, Riceville, Iowa, to succeed Samuel Tucker, resigned.
L. F. SHEPHERD, LaFayette, Ind., to succeed C. F. Mason, resigned.

The acute need of civilian cooperation with the military in all preparations for any future possibility of aggression from outside sources and the need for alertness in all walks of life against subversive activities within the United States was emphasized by General Eddy. He predicted that "future war will be total warfare and will not be waged solely by or against people in uniform" thereby accentuating the need for industrial preparedness, civil defense and mobilization of total resources as a problem commensurate with that of mobilizing military manpower.

Stressing that "Management's New Freedom," now found in the Taft-Hartley Act, is the right of management to present its side of the story to its unionized employes, Mr. Clark based his talk on a hypothetical wage increase demand of a telephone company union and the explanation of the company's position given to the workers.

In accordance with TELEPHONY's past custom we are not publishing a long running account of the USITA convention, but instead all of the addresses having to do with the telephone industry are being published on the pages that follow.

EXECUTIVE COMMITTEE

OSCAR BURTON, Tyler, Tex., Chairman
J. H. AGEE, Lincoln, Neb.
W. M. ANGLE, Rochester, N. Y.
F. S. BARNES, Rock Hill, S. C.
C. S. CADWELL, Chicago, Ill.
H. M. ENGH, Erie, Pa.
***ALDEN HART, Abilene, Kan.**
***L. W. HILL, Tarboro, N. C.**
A. N. JOHNS, San Francisco, Calif.
R. A. LUMPKIN, Mattoon, Ill.
***R. E. SHOTTS, Chicago, Ill.**

***New Members**

>> Bill Odom whose dramatic globe-encircling flight was completed on Aug. 11, carried a telephone with a range up to 1,000 miles in his plane for ship-to-shore communication through switchboards at Chicago, New York and San Francisco.

>> Illustrating that telephone facilities and services are continually changing is the fact that since the invention of the telephone in 1875 there has been an average of 260 telephone inventions per year. That's a total of about 18,000 new devices in the three score and twelve years of telephone development!

>> There are more cars on American farms than telephones—4.15 million cars compared to 1.9 million telephones.

What a Line!

Hal—What did that telephone girl say to you when she broke the engagement?
Cal—Ring off.—Portland (Ore.) *Review*.

OUR INDUSTRY—TODAY, TOMORROW

By R. A. LUMPKIN
USITA President

THE celebration of a Golden Jubilee should signify far more than the mere passage of a half century in the life of an individual or of an organization such as the United States Independent Telephone Association. The fact that there is gathered together here in Chicago the largest group of Independent men and women ever to be assembled for a national convention is proof of a greater significance.

This gathering signifies that the reasons for which the first Independent Telephone Association was formed were sound, that the accomplishments of that association and its successor organizations have resulted in valuable contributions to the welfare of the Independent segment of the telephone industry, and furthermore that there is a desire and a determination to continue the work of the past 50 years.

Let us for a moment run back to the year 1897 and gaze upon a handful of men who just then had assembled in the city of Detroit. Here was a small group of determined pioneers who, as separate individuals, had been struggling to launch themselves into the midst of a new and promising enterprise. They already had sensed the value of cooperative effort in their endeavors. At this moment they were seeking strength in unity. The path they had chosen was a long and difficult one.

Independent telephone men, all of them, no doubt they had chosen Detroit as the site of their first convention because in that city was being operated the largest Independent telephone exchange in the entire United States. Avowedly, they had banded together in a national organization in order to "plan joint resistance to any aggressions of the American Bell Telephone Co."

In reporting this meeting, Harry B. McMeal has noted that "great earnestness marked the sessions." And again, his words moderated, no doubt, by the mild reportorial style of the nineties, Mr. McMeal has said, "Debate during the sessions was animated." Great earnestness has continued to mark the sessions of our conventions, and while debate still is somewhat animated at times, the connotation of Bell aggression is vastly different from that of a half century ago. E. C. Blomeyer, Independent telephony's modern Boswell, recently has written that "it has of course been years since the principal objective of the Association was to protect Independents from Bell." Mr. Blomeyer further reveals that "differences between the two groups are now settled around the council table, in peace and amity."

This is perhaps the most profound change that has taken place in the history of our industry. Bell aggression is no longer a thing we have to fear. Bell aggressiveness is something we have learned to esteem and respect. In more ways than one, we have found

R. A. LUMPKIN

ourselves the beneficiary of this quality.

A notable example was contained in the broadcast of Oct. 13. On behalf of the officers, Board of Directors and all members of the United States Independent Telephone Association, I wish to take this opportunity to express our sincere appreciation for the graciousness of the Bell System in saluting our industry segment on the "Telephone Hour." To transport this program to our convention city, to provide for this occasion performers unexcelled in the concert world, was an undertaking of tremendous magnitude. The perfection with which it was accomplished bespeaks again the imagination, the resourcefulness—yes, the aggressiveness that is so properly characteristic of our Bell System friends.

It would have been difficult indeed to conceive a more adequate contribution to this, our Golden Jubilee celebration. I know that I speak for the entire Independent segment of the telephone industry when I express our appreciation of this most gracious and generous gesture—a gesture made in the finest spirit of cooperation.

It would be impossible for me to address you without a number of other expressions of appreciation—appreciation that is purely personal but very real and very sincere. There has been accorded to me over the past 12 months a very rare privilege — the privilege that comes with serving as president of your association. No period in the life of an Independent telephone man could be more interesting or inspiring.

It would be folly for me to contend that your president's job is an easy one . . . too many past presidents . . . from their own experience, know otherwise. At the same time, they also know that the task is made easier to the extent that your president receives the cooperation and the support of the entire membership and the staff in the Washington office. I feel that both have been given to me unstintingly by all those with whom it has been my pleasure to work. I am sincerely grateful for it and I want to thank every one of you very much.

My words will be limited to a relatively few subjects but they are subjects which seem to me to rank among the foremost in importance as we look ahead to tomorrow. Suppose we start with that old familiar subject, the cost of living, particularly the high cost of living that our industry is experiencing today.

Someone has humorously said that the cost of living has very little effect on its popularity. This may be true as far as we as individuals may be concerned, but the statement certainly has doubtful validity when applied to most forms of business enterprise. High cost of living is not only a problem in household economics, it constitutes a malady from which we all suffer. It afflicts not only our personal living habits, but also our business enterprises and even our government. Its effects are particularly discernible in the telephone industry.

High living costs generally are accompanied by high income. The current period is no exception. Income in the United States is at an all time peak and this is equally true of telephone

Left to right: H. F. LELLO, C. S. CADWELL and L. H. WARNER of the Automatic Electric group.

company revenues. But whereas business generally has been able to retain, from income, amounts sufficient to set impressive records of profit and return, such is not the case in our own industry. Current operations of many units in the telephone industry actually are being conducted at a loss. Despite the fact that per station operating revenues of companies reporting to the USITA have increased nearly 30 per cent in the past decade, per station income available for fixed charges has declined nearly 20 per cent in the same period.

We shudder to contemplate how much that decline might have been were it not for the amazing resourcefulness of our operating people and the fact that the use of plant and facilities has been stretched far beyond their engineered or even dreamed-of capacities.

In order to provide service for a maximum number of applicants, we have resorted to many expedients. Yet it must be recognized that the possibilities of those expedients long have been exhausted. It would be useless to deny that the quality of our service has suffered as a result. Yet there is a tremendous amount of work ahead before even prewar standards can be restored. These standards not only must be restored as quickly as possible, they must be vastly improved if our future operations are to keep pace with past tradition of the industry. Already we are living on borrowed time. The public's extraordinary patience will not endure forever.

No one will deny that such a program will cost money. It has required well over a billion dollars of new financing in less than two years. The total amount required is indeterminable at this moment, but it is not likely that over the succeeding five-year period, any other business in the entire United States will require a greater amount of new capital funds. We rightfully are concerned about how these funds can be obtained, for without question they must be sought in a competitive market. The telephone industry is not the only one that needs new money and all others will be equally aggressive in wooing the investor for his investment dollar.

If we are to be successful in our quest for new money, we must offer an investment equally as attractive as that of our competitor in the money market.

For the past 50 years, the investment caliber of telephone securities has been unquestioned. New offerings readily have been absorbed by the investing public. Our job is to see that there is no change in this situation.

There are three well-known tests of a good security. First, there is the question of management. Second, there is the question of whether the commodity back of the security has a steady and future market. On the basis of the past record of our industry, the quality of management will go unchallenged. There is little doubt that the telephone industry is here to stay. So, for the third point, what about the industry's ability to maintain fair earnings through good times and bad? In this respect our past record is exceptionally good, but what is the prospect for the future?

Unquestionably, our future operations must be conducted on a new and increased cost level—a level brought about by circumstances over which the industry has had no control.

There are some persons who still maintain the hope and expectation that so far as operating costs are concerned, the pendulum is about to swing back to the middle 1930's. The Midyear Economic Report of the President, transmitted to the Congress, July 21, 1947, should serve to dispel any such dreams. In this report, Mr. Truman has said—

"The activities of the war and the fiscal and monetary devices by which we financed that struggle introduced a profound upheaval in our economic affairs. The shock of war stimulated the country to full use of our resources. We do not propose to slump back to low productivity and underemployment. At present we are in the process of seeking to find a workable pattern of income and price relationships on a new price level but with continuing high production and employment. It is generally conceded that this new price level will be higher than prewar.

"A large part of the increase in prices since 1940 has become imbedded in the cost and income structure of the economy. Hence decline to the prewar level could be expected only as an accompaniment of a depression. That we are all determined to prevent."

Group of Stromberg-Carlson representatives photographed at the USITA convention. Left to right: R. E. HOFFMAN, Chicago, Ill.; R. F. FAIRLY, J. P. GALLIGAN, both of San Francisco, Calif.; R. H. BARGER, Rochester, N. Y.; F. J. MICKA, Mansfield, Ohio; W. J. PFAENDER, Chicago, Ill.; W. C. CALDWELL, Hancock, Minn.; JOHN E. CORNELIUS, Rochester, N. Y.; WALTER E. CARLSON, St. Paris, Ohio; T. C. THOMPSON, Rochester, N. Y.; W. L. MOLLANDS, Atlanta, Ga.; N. W. BALDWIN, R. O. HOFFMAN, both of Rochester, N. Y.; E. L. SHANKS, Camp Hill, Pa.; M. A. CLAY, Kansas City, Mo., and D. C. MAC MILLAN, Rochester, N. Y.

By these words the government has accepted the inflation and price rise that has taken place in the past few years. It not only proposes to preserve the present level of prices; it clearly declares itself opposed to any tendency to bring it down.

So vanishes the hope that former earnings will be restored by a lowering of operating costs. In its search for a

workable pattern of income and price relationships, the telephone industry has been forced to resort to a program of rate increases. Upon the character of such increases, as well as their amount, depends the industry's ability to maintain a stable income record for the future.

Some increases already have been granted, others are under way. Satisfactory earnings must be maintained. For, generally speaking, both the public and the regulatory bodies set up in its interest recognize the need of adequate earnings if the requirements for good and adequate service are to be met. Customer opposition to rate increases has been succeeded in many instances by appearances on the part of the public in support of company applications and generally accompanied by requests for improved service.

The current approach of state commissions is, for the most part, encouraging to those of us who are struggling with rising costs of operation. In fact, some regulatory bodies have been more alert to the consequences of rising costs than a number of the operating companies under their jurisdiction.

In a recent rate case decision, Judge Hooker, chairman of the Virginia Corporation Commission, emphasized the fact that a publicly regulated utility is left helpless in times of rapidly mounting costs unless prompt and adequate relief is granted, and furthermore, that no such utility can discharge its responsibility to the public in the form of good and adequate service unless its earnings are sufficient, not only to cover operating expenses, but also to provide proper reserves for depreciation, plus a return ample enough to attract needed capital.

Paralleling the philosophy of the Virginia commission are the words of Chairman Miller of the Ohio Public Utilities Commission. Addressing a recent meeting of the NARUC held in Boston during July, Chairman Miller drove home to his fellow commissioners the fact that they are not bound by any legalistic formula in the determination of proper earnings. On the other hand, Chairman Miller declared that commissions today "are bound in good conscience and by practical economics to fix rates which will provide a return adequate to attract capital at the time it is needed, to maintain the credit of the business, and thus to give assurance of the continuity and quality of the service."

At no time in the past 20 years has the need or the possibility for rate adjustment been greater. That regulatory commissions recognize this is clearly apparent.

If there is any need for proof, let us review for a moment increases granted to the railroads since January of this year. The first of these amounted to 17.7 per cent and added $1,000,000,000 to the companies' revenues. Another, amounting to $600,000,000 or an additional 10 per cent, has just been granted as a down payment on requests totaling $1,800,000,000. None of these include certain increases in passenger fares, express rates, mail payments, etc., which are estimated to have added about $300,000,000 more.

Left to right: C. A. LAMPEL, New Bethlehem, Pa.; R. W. SIEMUND, Leich Sales Corp. and MRS. A. A. WILSON, Mattoon, Ill.

In granting an interim increase to the railroads, the commission said in its order dated Oct. 6, 1947:

"Railroads, like many other industries, are vulnerable to inflationary forces or to sudden and sharply ascending costs. They are large and regular employers of labor, and are also heavy purchasers of fuel and various other materials and supplies; hence, they are directly affected by increases in costs occurring in any of these different categories. Sharp price increases have occurred in all of such categories.

"Our duty is plain. The law requires us to give due consideration, among other factors, to the need of revenue sufficient to enable the carriers under honest, economic and efficient management to provide adequate and efficient railway transportation service for the nation.

"It has been strongly urged upon us by responsible authorities that any increase in freight rates and charges at the present time might stimulate already existing inflationary forces. But in our judgment that factor is outweighed by the necessity of keeping the carriers, in the face of higher costs of operation, in a reasonably healthy condition in order that they may maintain their credit, procure additional equipment which is now urgently needed, and rehabilitate and improve their properties generally to take care of the demand of the public for adequate transportation service."

Thus there is no question about public acceptance of the necessity for additional revenues. Unfortunately, some of our companies either fail fully to recognize the gravity of the situation or lack, perhaps, the will and initiative to seek the revenue which they need. One of our state regulatory bodies has facilitated rate adjustments for smaller operating units by a blanket order authorizing increases within certain limits. These increases can be obtained with a minimum of effort. Yet many of the eligible companies within that state have failed to avail themselves of the help that has been offered.

(Please turn to page 96)

Left to right: F. D. YOUNG, Kittanning, Pa.; C. E. BROWN, Kellogg Switchboard & Supply Co.; CECIL HITCHEN, Western Union; R. E. HENRY, Ka-mo Tools, and J. A. CAMPBELL, of the Kellogg company.

YOUR ASSOCIATION'S AFFAIRS

By CLYDE S. BAILEY
USITA Executive Vice President

ON THE 50th anniversary of the founding of your association I would like to add my felicitations to those which you have already received. I wish you many happy returns of the day.

Fifty years ago, when a national organization of Independent companies was first formed, Grover Cleveland and William McKinley had taken over the reins of government. In the meantime, nine other men have occupied the office of the chief executive of the nation. Two major wars have been fought and won. In 1897 the population of the country was less than 75,000,000; today it is more than 140,000,000.

Then, the telephone industry that was given birth by the momentous invention of Alexander Graham Bell in 1875, was barely becoming of age. The 900,000 telephones in use in the United States in 1897 have now grown to more than 33,000,000. All of the rest of the world put together does not have that many. In 1897, the total number of Independent exchanges was a little over 2,200; today the number is in the neighborhood of 12,000.

But those who man the lines are not content to rest. . . . In 1897 there was only one telephone for every 83 persons. Some figures as to telephone growth in various nations published not long ago by a committee of Congress show that today—

In the United States there is one telephone for every five persons.
In Sweden there is one telephone for every six persons.
In Great Britain there is one telephone for every 12 persons.
In Russia there is one telephone for every 125 persons.

As evidence that the pioneering instinct is still much alive I might remark that since the end of the war your association has had dozens of inquiries from returning soldiers as to how to go about buying or setting up small telephone exchanges. . . .

What kind of people were those who did the pioneering 50 years ago when your association first came into being? If you will thumb the pages of the industry journals of those days, as I have done, you will find that many of them wore mustaches and beards. . . . They were not all saints. But certainly they were not sinners. They had a commercial instinct for making money. And just as certainly there was nothing wrong about it. . . .

If those pioneers had a commercial instinct they also had a conception of the need and the right of the public to communication service, a service which was destined to become so important to the business and social life of the community as to justify legislative bodies in subjecting it to public regulation under statutes which, in modern amended form, provide that before there can be a cessation of service the consent of public authority must be obtained.

Independent telephony has succeeded because it has deserved to succeed. . . . There must be something in the very nature of the telephone calling which brings out the best in human nature and public-spirited service.

Not long ago our good friend Francis X. Welch said:

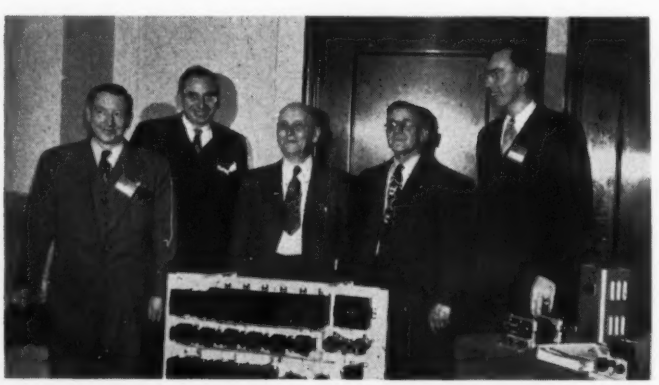
"The public utility business, privately owned and operated, publicly regulated, self-supporting and tax producing, represents the finest flower of the American way of life. . . ."

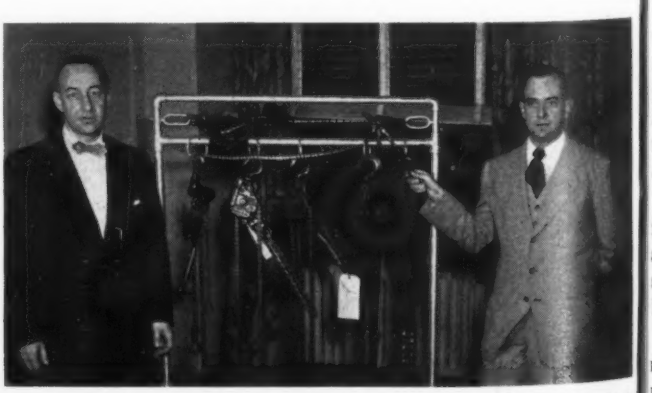
What the future holds out for the Independent segment of the telephone industry depends more upon the general economic diet and climate of the country as a whole than upon any other single factor. Our industry is not separate and apart from the general economy. Speaking broadly, its pulse rises and falls with general economic conditions, the same as in most other businesses.

We have won a fair measure of economic stability during the more than 50 years of our existence. We have weathered several depressions. We have provided an essential service through the trying times of two major wars and two minor ones. We have survived dire shortages in manpower and materials when they were more needed for other purposes in the nation's arsenal of democracy. We have gotten the message through notwithstanding the largest obstacles.

If we can now weather some of the economic heresies and sophistries that have been knocking at our door as an aftermath of war; if we can hold up our end in the never-ceasing battle for a share of the consumer's dollar; if we can succeed in keeping our credit good through adequate earnings so that plant rehabilitation and expansion need not be neglected; if we can continue to get the message through, more efficiently, with less complaint, at rates which are reasonable to all concerned, we shall again vindicate our claim to initiative and resourcefulness; and furthermore we shall prove anew that ours is a splendid example of American free enterprise at its best. . . .

It should be borne in mind that ours is a national, not a state, organization. As declared in Article 2 of our by-laws, "the association is organized for the purpose of promoting the *general* welfare of the individuals, firms, and corporations engaged in providing Independent telephone service. . . ."





LEFT PHOTO, left to right: C. P. STOCKER, Lorain Products Corp.; O. C. BUCK, New Richmond, Ind.; E. L. KLINGEL, St. Paul, Minn.; ROY PALMER, Merrifield, Minn., and H. M. HUGE, Lorain Products Corp. RIGHT PHOTO: W. W. ROGERS (left) and J. R. COFFING, JR., both of Coffing Hoist Co.

The splendid historical sketch of our segment of the industry, by Mr. Blomeyer, sets forth with crystal clearness the transcendent fact that but for a national organization there would not be an aggregation of commercial Independent telephone companies. Indeed there would not be such a thing as a telephone industry as we know it today at all. The existence of a national association made it possible not only for the general integrity of the Independents to be respected but for the entire industry to be preserved as private enterprise, instead of being taken over by the federal government, and operated as a state enterprise as in other large nations. . . .

On the subject of legislation mention may be made of the amendment obtained in 1939 to the Wage and Hour Act by which Congress granted a partial exemption which recognized the peculiar conditions surrounding the operation of the small telephone exchange. Without this exemption the economic survival of many of our small exchanges would have been jeopardized.

Mention should also be made of provisions included in the Communications Act of 1934 which greatly limited the jurisdiction of the Federal Communications Commission over most of the Independent companies, notwithstanding the fact that such companies are all engaged in interstate commerce to some extent and are therefore subject to federal power if the Congress should see fit to exercise it. Those provisions were written into the law as a result of representations as to their necessity made by the national association. . . .

In referring to the Wage-Hour Act amendment and to the exemption provisions of the Communications Act no claim whatever is intended to be implied that the national association pulled any rabbits out of the hat. Your association has no magic power. What we do say is that the association was on the job and presented facts and arguments to Congress which in its own informed opinion justified the legislative treatment that was accorded.

It is appropriate also to mention the Taft-Hartley labor reform bill, for it is a fact that although this meritorious piece of legislation is one of general application, your association undertook to explain the need for it from the standpoint of our interests.

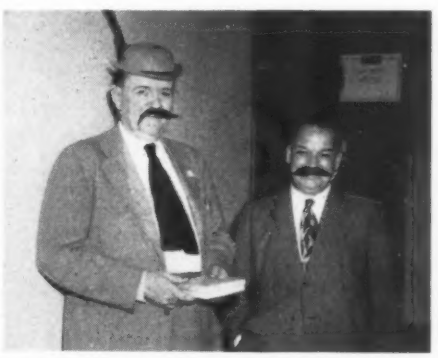
And, of course, for reasons to be referred to a little later, mention should also be made of the enactment of a statute of limitations, as a part of the Fair Labor Standards Act.

Still another field of activity of the national association has been in connection with the general toll relationships between Independents and the

This group of representatives of the North Electric Mfg. Co. are R. C. RYON, W. H. WALTER, ERIC BROOKE, W. M. AIKEN and COL. WILL V. PARKER.

Bell System companies. Here too it can be said that the association has rendered a very useful service to its members. The increased commissions on interchanged business which have accrued to Independent companies in the last 10 years alone, brought about in substantial part by the efforts of the association, have amounted to very substantial sums, amounts large enough to justify the expense of maintaining both national and state associations for many years in the past and for many years to come.

Another highly important field in which the national association has functioned in the interest of its membership has been in connection with



F. M. PARSONS, Kellogg Switchboard & Supply Co. (left) and W. M. McILVANE, Copperweld Steel Co., try to disguise themselves without success.

advice upon various technical features of telephone operation. This has been done mainly through able, hard-working committees. . . .

Telephone Companies Doing Their Best to Lick Service Problem. The birth rate of new stations since the end of the war, our station growth, has been high. Since VJ day our Independents in the aggregate have installed upwards of a million telephones. The Bell System companies have installed more than 5½ million. But large numbers of people are still waiting for service.

As everyone knows, the bottleneck has been central office equipment. Plant margins in most places must be restored before orders for service can be filled. In many instances whole new buildings to house new equipment must be constructed. Manufacturers are turning out equipment as fast as they can. Already in some places companies have caught up with held orders and are out actually seeking new business. At the other extreme are companies which may not get needed central office equipment for several years yet although already on order. . . .

Some of the state commissions have exhibited impatience with delays that have attended the making of service improvements. A few have . . . by holding statewide hearings, or hearings involving particular companies. One has adopted the rather extreme penalty measure of reducing subscriber rates. Another has threatened to do so.

As to penalty rates it seems to me that aside from the serious question of law presented, it must be obvious that in many situations any such regulatory philosophy would, if resorted to generally, be productive of a vast amount of uncertainty and confusion. It would also, by depriving a company of needed revenue, defeat the very ends so much desired by the public, the commission, and the utility itself.

In a letter addressed to one of the state commissions by your association the hope was expressed that some practical solution to the service problem might be found so that telephone service may be brought up to the standard desired by all concerned without attempting to introduce any new and untried regulatory concept of doubtful validity.

When the bell tolls for the end of the scarcity in materials, equipment, and manpower that has been hampering telephone companies, there will be enough telephone service for everyone who wants it when he wants it.

Not long ago, I shared the platform at a state telephone association convention with a state official. Though modest enough to admit that he did not know anything about the telephone business, he said we should get the war behind us and forget about wartime scarcity as an excuse for not meeting our service obligations today.

But how, I asked, can we blind ourselves to the principal causes of our service troubles when we know that our manufacturers are still finding it difficult to get certain needed critical material with which to fabricate equipment. . . .

We would all like to get the war behind us. But the government of the United States, still the best government in the world, will not let us forget about it. Did not the *United States News* in May, 1947, tell us that since VJ day, good old Uncle Sam with a generous heart has shipped to Russia $233,000,000 worth of goods and materials—an amount almost one-third as large as the aggregate investment in all Independent telephone property?

There was a service problem following World War I. It was eventually licked. The service problem which has followed World War II will also be licked as fast as telephone companies and telephone manufacturers acting in cooperation are able to get the tools to do the job. No group could possibly want it done quicker than the telephone group itself. . . .

Legislation

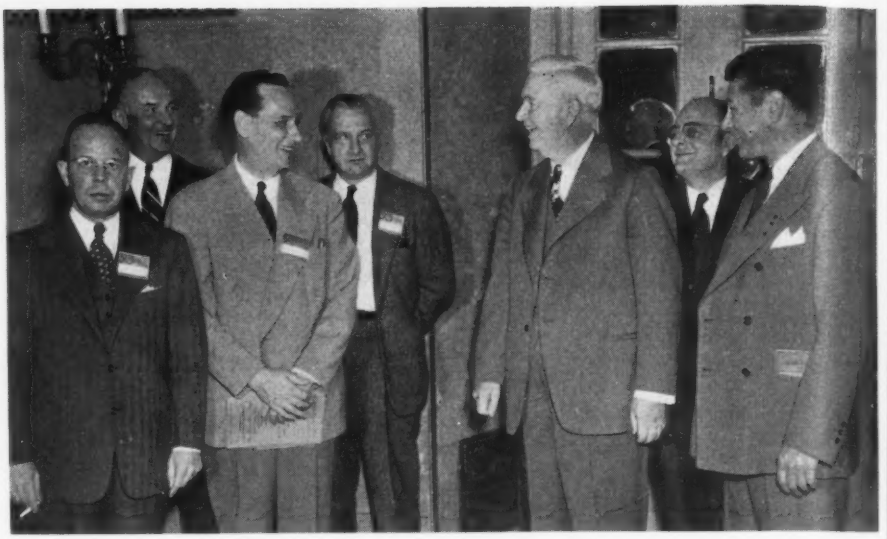
While activity in legislative matters is not the principal function of your association, it is natural and proper when measures are pending before Congress in which the Independent segment of the telephone industry is interested, that your organization should seek an opportunity to express its views.

Legislation of direct interest to us in the present Congress, pending or already advanced to enactment, may be enumerated as follows:

(a) Legislation proposing a cabinet investigation of utility rates.
(b) Rural telephone legislation.
(c) Tax legislation.
(d) Taft-Hartley Labor Reform Bill.
(e) A statute of limitations.
(f) Minimum wage legislation.

In the case of bills calling for an investigation of utility rates by three departments of the exexecutive branch of the government, it may be stated that no progress whatever was made upon them at the last session and that the prospect is that they will not be seriously considered at the next.

Proposed rural telephone legislation slept in committee all of last session, and there is no present indication that any real effort will be made to awaken it at the next session. . . .



A group of Independents welcome Chicago's mayor, MARTIN KENNELLY, who addressed the USITA convention. Left to right: C. S. CADWELL, Automatic Electric Co.; R. A. PHILLIPS, Lincoln, Neb.; T. A. BOYD, New York City; MAYOR KENNELLY; C. D. MANNING, Kellogg Switchboard & Supply Co. and W. C. HENRY, Bellevue, Ohio.

Your association through the chairman of its Tax Committee appeared at a hearing at the last session before the House Ways & Means Committee and presented a statement in support of the association's views on excise taxes.

In the same manner your association also appeared before the same committee in support of various changes in the corporate tax structure. The principal change advocated dealt with the elimination of the inequitable double system of taxation of business carried on in the corporate form.

It is known that the House Ways & Means Committee is making intensive study of the whole tax situation with a view to having recommendations ready for Congress when it reconvenes two and a half months hence.

It seems likely that some for of tax revision will be enacted in 1948, an election year. What it will be will depend upon a number of factors, among them the results of the studies now in progress by the House Ways & Means Committee, the extent to which we must continue to lend financial and other assistance to foreign countries, and the requirements of our military in the face of a changing world situation.

Labor Reform Legislation

It is to be hoped that the Taft-Hartley labor reform bill enacted at the last session will be something more than that. It was intended to have a needed prophylactic effect on the labor front. . . .

Everyone interested in a smoothly functioning economy, with cordial relations between those who furnish job opportunities and those who hold jobs down, will hope that every labor union with a spark of the spirit of democracy will accept the Taft-Hartley Bill and in good sportsmanship try to make its provisions work for the general good. . . .

Employers generally were heartened at the last session of Congress by the enactment of a federal statute of limitations to govern the bringing of suits for claimed wage arrearages under the 1938 Fair Labor Standards Act. As one member of Congress expressed it, the 1938 Act created an indefinite liability for an indefinite period for an unknown violation of an undefined law.

The Gwynne Portal-to-Portal Act, carrying a much needed time limitation for bringing suit as well as making other noteworthy changes in the 1938 statute, became a part of the law of the land on May 14 with presidential approval.

The need for the enactment of such legislation was brought to the attention of Congress several years ago by a number of national trade organizations. Indeed, I think it is fair to say that the genesis of the legislation was action which was taken by your own national association, functioning through your alert Employment Relations Committee and your association officers.

The spectre of increased minimum wage legislation raised its head at the last session of Congress again and is certain to reappear in fuller view at the next session. At a hearing before a subcommittee of the House Committee on Education & Labor in July your executive vice president appeared on behalf of your association and drew attention to the peculiar conditions surrounding the operations of the smaller units in our segment of the telephone industry.

R. T. BEARD of the Loomis Advertising Co.

In doing this we sought to make plain that we were not in any sense arguing for sub-standard wages. Sub-standard wages in any industry should not be tolerated. We told the committee that, far from paying sub-standard wages, our Independent companies are paying attractive wages which in many cases are higher than wages requiring like skills in other business activity in the same communities.

We undertook to explain to the committee some of the factors which differentiate living conditions in small towns from those in large towns. We said that to require small employers in small towns to pay metropolitan wage rates would be unjust to the employers, and that to permit employers in large towns to pay wage rates found reasonable in the very small places would be unjust to the employes. . . .

Without attempting to summarize all of our testimony, I may say that we urged the committee to attempt to provide a mechanism under which some reasonable differenial between wage rates in small towns and large towns may be devised.

I believe that at least a majority of the members of the house committee accept the validity of this economic philosophy. At the same time, having no greater cerebral prowess than most of the rest of mankind, they are dubious about their ability to construct such a mechanism. There are so many towns with such varying circumstances and diverse living conditions. Unless someone can come up with a suitable plan for establishing the needed differential it may well prove that we shall witness an increase in the minimum wage applicable generally, subject only to the exceptions and exemptions already in the law or to others which Congress in its wisdom may see fit to enact.

As a result of comments and criticisms concerning operation of the various provisions of the Fair Labor Standards Act, the House Labor Committee will begin broad hearings in Washington later this month. The committee intends not only to take additional testimony on the question of a new minimum wage but to consider such other matters as coverage, exemptions, child labor, liquidated damages, overtime and other aspects of the present law.

The apparent intention is to do a thorough-going job of probing and examination, a job as complete as the one done by congressional committees in laying a foundation for the labor reform legislation enacted at the last session.

Operating Results of Class "A" and "B" Companies. One of the important activities of our association is the compiling and distribution of accounting and statistical data relating to the operations of Independent telephone companies. Our annual statistical reports have been restricted to the Class "A" and "B" companies because of inability to obtain reliable underlying figures from a sufficiently representative group of the smaller companies. In time we hope to be able to obtain figures from all companies regardless of size, so that the accounting volume may contain a more comprehensive showing of the results of operations of companies in our branch of the industry.

This part of the Association's work is carried on by Secretary Floyd D. Ridings, who also serves as our statistician. . . .

T. A. LOGAN (left) and T. S. GARY of the Automatic Electric group.

Small Company Rate Increases

Mounting operating expenses have compelled many companies to seek added revenues through the medium of subscriber rate increases. While it is never a pleasant task to increase rates, it is sometimes a most necessary one.

(Please turn to page 98)

Several contests featured the recent USITA convention. In the left photo are two TELEPHONY representatives who helped select the winner of the radio receiver given by the Cook Electric Co. H. R. CHRISTIANSON, Muskegon, Mich., won the radio. Left to right: MRS. MILDRED METTS, TELEPHONY; J. F. JAAP, Cook company; R. B. FAIRLY, Lubbock, Tex.; C. M. FAWCETT, Ocala, Fla.; COL. E. W. LOVE, New Haven, Conn., and MISS VIVIAN RYDEN, TELEPHONY. In the right photo are two winners of the contest conducted by the American Crossarm & Conduit Co. Left to right: STAN SHERMAN, American Crossarm & Conduit Co.; MRS. F. W. BECHDOLT, Defiance, Ohio, third winner; N. D. STOKER, American Crossarm company, and F. W. HAUPT, Stromberg-Carlson, first winner.

RURAL SERVICE COMMITTEE REPORT

By W. C. HENRY
Chairman
USITA Rural Service Committee

I AM glad to discuss for a few minutes "The March of Telephones to the Farms" because this is one of the important facets of telephone operations for practically every Independent company in this dynamic age.

In the decade just prior to the turn of this century Independent telephone exchanges were organized in several thousand towns all over this country. The large majority of them were in the smaller towns or villages, with rural customers constituting a large part of the total number of connected stations. Farmers in the surrounding areas built their own party lines into town for connection to the telephone exchange as switched lines. In other areas farmers organized their own mutual companies with one of their members operating the switchboard.

The pioneer instinct thus began to manifest itself with lusty vigor.

There followed a steady growth in number of rural subscribers as pole leads and grounded wire lines were extended out like gigantic spider webs radiating from telephone "centrals." This widespread expansion in the number of rural telephones continued until about 1920. Over the following 15 years there was brought home to us the full realization of the close relationship between the farmer's income and the number of farmer telephones, as we witnessed an alarming decline in rural stations.

It should be emphasized that this decline in farm telephone use did not arise out of inadequate service. It came from a decreased number of dollars in the farmer's pocket.

Changed economic conditions and the approach of a second world conflict reversed the decline in the demand for rural telephone service. And for the past six years we have experienced a persistent and continuing demand for the installation of a seemingly endless number of rural stations. Despite our best efforts since 1945, most of our companies today have on file a new high in the number of held orders, including many for rural service. The rural telephone problem persists. Its solution is on the way but continues to demand the best of our Industry.

Subject to the availability of equipment and manpower, that problem now in the year 1947 resolves itself into two major parts. They are first, adequate rural coverage, and second, an improved grade of rural service.

I reported in some detail at our Spring Conference on developments up to that time in the farm telephone situation. Since then, on June 18, Administrator Wickard of the REA made public proposed standard contracts which he has approved for any REA borrower desiring to enter into an agreement with a telephone company for joint use of wire or poles. These contracts are the result of joint studies conducted between representatives of the REA and both groups in the telephone industry.

There are two separate contract forms. The first covers the use of

W. C. HENRY

power wires for rural telephone carrier currents in the 150 to 500 kilocycle band and the use of poles for attaching the common carrier terminals, drop wires and other telephone attachments. REA cooperative employes will, of course, make the connections to the power wires. For this use the telephone company will pay the cooperative an annual attachment rental of $1.00 for each pole on which attachments are made, $2.10 per year for electric power consumed, and the out-of-pocket costs for special work performed by employes of the cooperative, on telephone carrier systems.

The second contract form, and to us probably the more important one, covers the joint use of poles for both power and telephone wires. This is purely a reciprocal leasing agreement, the ownership of all jointly-used poles resting with either the cooperative or the telephone company. The contract suggests that an attempt will be made to equalize the ownership of jointly-used poles when the placement of additional poles for joint use is planned. Each telephone company must decide whether it wishes to enter into joint pole use on electric power poles with voltages used by power companies.

The contact rental payments included in the contract were developed on the principle of sharing economies through the joint use of one pole line. Recognition is given to the fact that power poles usually are taller than telephone poles. For example, if a cooperative contacts a 35-ft., Class 6 pole owned by the telephone company, it will pay an annual rental of $2.00, but if the telephone company contacts a pole of the same size owned by the cooperative, the telephone company will pay an annual rental of $1.30. Actually, the contact rental payment schedule to apply in a particular instance is determined by the construction cost per mile of the poles to be jointly used as agreed to by the cooperative and the telephone company.

Perhaps some improvement can be made in these two REA contracts, but it is felt that they offer in many instances a reasonable approach to the solution of costly duplicate pole lines. One Independent company has estimated that it will save in first cost about $40,000 by joint pole use under the new contracts, in 72 miles of new construction. There is at present more than one-half million miles of REA construction now lining our roads, and many additional miles have been approved for construction within the next two years. If a telephone company desires to enter into joint use of REA poles, there should be ample opportunity for most companies to do so under this contract.

By the way, if you haven't seen a copy of these contracts, you may get them by dropping a line to our executive vice president, Clyde Bailey, at our Washington office.

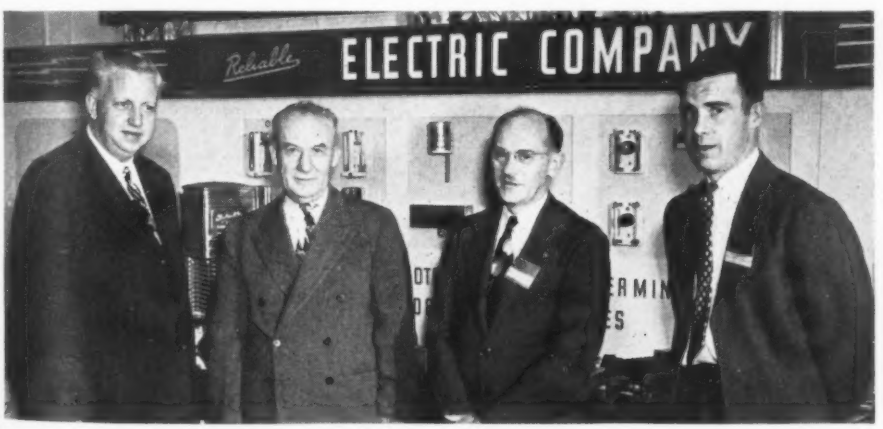
On Aug. 8th of this year the AT&T sent forward to its Associated Bell companies a draft in tentative form, of a rural power line carrier agreement, which had been prepared by a joint committee of the Bell System and the Edison Electric Institute on rural telephone service by carrier on power circuits.

This draft form of agreement, for use between commercial power and telephone companies, is rather general

inasmuch as it was recognized that no single form of agreement would be suitable in all situations. Administrative details and contact rental fees are to be worked out in each specific case in accordance with standard plant construction practices of telephone and electric companies. If you have occasion to want to connect telephone carrier equipment to the lines of private power companies, I am sure your connecting Bell company will make a copy of this tentative form contract available to you.

From previous reports made from this platform and from reports published in our trade journals, you, of course, know of the technical success of the power line carrier system. As of Sept. 1, Bell System companies had 34 M-1 power line carrier systems in use, providing service to 236 rural customers, an average of about seven customers per system. Power line carrier installations are being accelerated by the Bell System, and Western Electric M-1 equipment production this year is expected to be sufficient to serve about 12,000 telephone customers. Two of our Independent operating companies have made initial power line carrier system installations, and several others have ordered this type of equipment. All reports indicate that the service provided by these systems is very good.

Here is the group of officials and employes of the General Telephone Directory Co. who published the invaluable directory during the USITA convention. STANDING, left to right: MAX W. BECKER, FRANK DAVIES, EVERETT MORNINGSTAR, all of Long Beach, Calif., and HARRY HUETHER, Chicago, Ill. SEATED, left to right, MARY OBERBECK, Madison, Wis.; MRS. WINIFRED EDEN, Lafayette, Ind.; CELIA BOONE, Chicago, Ill.; MARGARET CLARK and MRS LUCILLE JAGERSON, both of Long Beach, Calif.



Left to right: GEORGE MORSE, Reliable Electric Co.; E. C. HUNT, Blair, Neb.; D. L. BAXTER and W. A. DINSMORE, both of the Reliable company.

However, the present cost of power line carrier equipment makes its use economical only under special conditions. Certain sections in the South and West, where distances between rural subscribers are great, the number of subscribers limited and construction costs high, offer the best possibilities for its use. Although regular telephone line construction is more practicable in the majority of cases, telephone companies should be alert to recognize those special cases where power line carrier systems will be desirable as an alternative to the construction of new conventional telephone lines or the rebuilding of especially long existing rural lines where a company is committed to maintain rural service.

Attempts to adapt the M-1 power line carrier system directly to existing long rural telephone lines is thus far not at all encouraging. The number of miles of cable or iron wire over which this type of system will operate satisfactorily is not very great, particularly when measured by the cost of the equipment, although on copper or copper steel wire the range is much more satisfactory.

At least two of our Independent telephone manufacturers are working on rural carrier systems for use on regular telephone lines. In so far as I have been able to ascertain, they are adaptations of regular central office trunk line carrier systems. One of our manufacturers is offering an adaptation of the Lenkurt Type 10, point to point carrier system for use on rural telephone lines. This system requires one terminal at or near the central office and the other terminal in the vicinity of a group of subscribers to be served. Conventional telephone lines connect the stations to the second terminal, with several stations connected to one pair of wires, if they can be conveniently grouped. This system will serve a maximum of 10 customers on a bridged, code ringing metallic line basis, and will operate to provide magneto, common battery or dial service. Because the Lenkurt Type 10 System uses fairly low frequencies, 4 to 10 kilocycles, it is possible to connect more than one system to wire circuits on the same pole line without special transposition. Only one system, however, can be connected to each pair of wires. The length of line which can be used satisfactorily with this equipment will depend upon its makeup. The price of the equipment is such as to make it appear as a possible alternative to stringing additional wire for long rural lines in many cases.

The other Independent manufacturer is understood to be working on a modification of its 9 H 1 carrier system along lines similar to those just mentioned. Also I understand that development of a short haul carrier system of somewhat different characteristics is well under way by one of our larger Independent operating groups. Both expect soon to make announcement to the industry of their equipment.

These joint pole use agreements and carrier systems constitute additional tools with which to attack the rural telephone problem. However, adequate rural telephone coverage can only be achieved the hard way—that of placing thousands of telephone poles on end in holes dug in the ground. The number of rural telephones that are being added by most of our operating companies is in direct proportion to the

emphasis which each individual company management is giving to this problem.

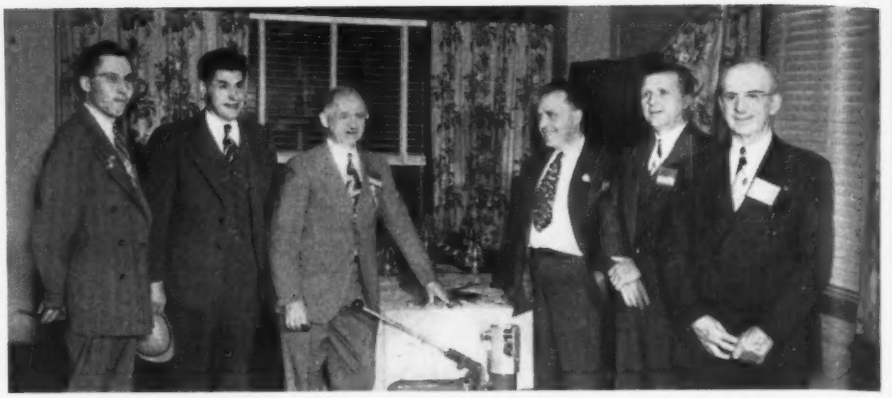
Bell System companies are continuing to do a splendid job in extending rural service in their areas. In 1946 they added 342,000 rural customers and in the first eight months of this year another 183,000. Their increase of 525,000 new rural customers since Jan. 1, 1946 amounts to an increase in less than two years of almost 50 per cent in the number of rural telephones in areas which they serve.

Accurate figures of rural telephone growth in our branch of the Industry are not available, but the statistics so far obtainable indicate an average gain of 16 per cent to 17 per cent in rural stations in Independent telephone territory for the two years of 1946 and 1947. It is true that this gain represents about two times our normal rural station gain, but it is only one-third as good a job as the Bell System has done, and theirs is the yardstick we are measured by in the eyes of the public and the politician.

The AT&T company prepared a most attractive exhibit for the REA annual convention held this February in Spokane, Wash. It is more inclusive than their power line carrier exhibit shown at our last convention, and depicts graphically the various methods which they are employing in providing more service for farmers.

Senator Hill's bill to amend the Rural Electrification Act to provide for rural telephones did not even come up for committee hearing in the first session of the 80th Congress, and it may get no farther in the second session. REA cooperatives did, however, secure from Congress an appropriation of 225 millions for new electric power line construction. At the rate they are going, these cooperatives will have covered their territories with power lines within the next several years, and will be ready for new activities. Whether the REA enters the telephone field in competition with commercial telephone companies will be determined to a very large extent by the job we do over the next year or two in providing adequate rural telephone service in our exchange areas.

Since the end of World Conflict II we have been handicapped by insufficient materials and shortage of trained manpower. Yet the ability of my own company to purchase material is fairly comparable to the Bell companies, and operating as I do in smaller communities, opportunities to employ manpower are better than they are in industrial centers. Each one of you who is charged with the management of an Independent telephone property must answer for himself the question of whether in October, 1947 you are using the oft repeated short supply of material and manpower as a real reason for not installing more rural telephones, or as an excuse for not doing so. I repeat, there is a direct relationship between the extension of rural lines and the emphasis which each telephone management is placing on this problem.



Left to right: JOHN WINCHESTER, National Telephone Supply Co.; C. E. AMBELONG, Pusecno, Ill.; C. H. KLEIN, National Telephone Supply; W. A. TROUT, Blackhawk Mfg. Co.; GLENN VOYLES, National Telephone Supply, and J. HENRY GEORGE, Ashland, Ohio.

There is little uniformity in the Independent group in the matter of extension of new lines. Many of our operating companies, including some of our Class A members, today are continuing to charge the applicant for the extension of rural service beyond one or two poles. Companies that are serious in their desire to solve the rural telephone problem are making rural line extensions up to from one-quarter to one-half mile per customer to be served, and wire line extensions of from one to one and a half miles per customer, on existing company-owned poles, without construction assessments.

Some companies partially protect themselves by requiring the subscriber to execute contracts for service for periods varying from one to five years based on the length of the line extension. In several cases the customer is required to also make advance rental payments of from six months to a year. These practices vary with almost each operating company, and in general reflect recently liberalized line extension rules.

These Koiled Kords, Inc., officials are (left to right) COL. E. W. LOVE, C. S. MASON and JOHN BROWN COOK.

I ask you, have you in your own company liberalized your line extension rules to the greatest reasonable extent essential to the maximum development of your rural service? Are you applying these line extension rules on an area coverage basis? If not, these are matters which merit your prompt and serious consideration.

In addition to making rural service available to all who desire it, we must carry forward a definite program to improve the quality of rural telephone service. Multi-party lines, with 18 to 20 or more code ringing telephones on one line, may have provided acceptable service when they were first established, but that is not so today. Local calling rates per subscriber have tripled since 1914, but the number of subscribers on rural lines has in many cases remained constant or even increased. As calling rates increased, rural service has been down graded. Surveys which have been conducted within the last several years all clearly show that the most persistent criticism of rural telephone service is the large number of telephones on a line. Overloading multi-party lines stems from the desire of our industry over a long period of years to keep the rate for rural service as low as possible, and to defer construction of additional costly rural line facilities.

We are all faced with the necessity of securing additional exchange revenue and present rural telephone rates of most of our companies are noncompensatory. Rural service rates are far more important to Independent companies than they are to the Bell System because of the much higher proportion of rural station to our total connected load. Our rural rates must be as high and in some cases even higher than Bell System rural rates in order that they may carry in so far as practicable their proper portion of the cost of providing this service.

(Please turn to page 104)

ALL-AMERICAN TELEPHONE TEAM

By KEITH S. McHUGH
Vice President
American Telephone & Telegraph Co.

I WOULD like to start by saying, in behalf of all your Bell System neighbors, how very pleased we are to be taking part with you in this Golden Jubilee celebration. We all of us say, "Congratulations"—and we're happy that through The Telephone Hour we have been able to help spread the word of your progress and achievements, and at the same time tell the people of this country something of the esteem in which we hold our fellow-workers in the Independent telephone industry.

You and we are engaged between us in furnishing telephone service — the best possible service — to all America. There is not a moment in time—not one—when Independent and Bell System forces may not be called upon to act together, and always to the same identical purpose, which is to enable people anywhere in our land to talk with each other regardless of distance. Just as the telephones that the industry serves are interconnected, and precisely because they are interconnected, the responsibilities, the problems, and the progress of different units within the industry are interwoven and interdependent. Only in one way can we serve all the people of this country, anytime, anywhere, and serve them better as the days and years go on. That is by working together, thinking together and planning together on all our common problems; by All-American team-play all the time.

So I am especially glad of the opportunity that this great occasion gives to us in the Bell System—the opportunity to tell you as strongly as we know how of our intense interest and desire to do the most that we can to help make this teamwork more and more effective. The industry has come a long way in the last 50 years, and I for one am certain that it is going a long way—with all telephone people working together —in the next.

In recent years, both before and during the war, I have had the personal good fortune to work directly with many of you. I can't let this moment go by without expressing again our admiration for your abilities and our appreciation for what you have done to help solve joint problems of great importance to all. The war tested your capacities as it did ours, and brought forth great achievements from the Independent telephone companies and from Independent manufacturers as well. These were the result of the hardest kind of work and often of great sacrifice. You had a tremendous assignment and you did a great job—in meeting urgent needs of the Army and Navy; in conserving materials and stretching facilities; in releasing needed men and women to the military services; and in getting those war calls through promptly in spite of every kind of handicap. Of these and many other accomplishments you may be very proud.

The cooperative spirit of the telephone industry during the war was exemplified in the Industry Advisory Committee which worked closely with the War Production Board, and which had serving on it more Independent than Bell System members. In those committee meetings and in the preparatory work outside, everyone's interests were completely subordinated to the national purpose. Over these years there was not a single instance of real disagreement between the Independent and the Bell representatives on any matters affecting the wartime service job. Such a record is the best kind of evidence that we will work successfully together in the years of peace.

But before I come to some of the opportunities which we have directly at hand, I can't resist taking a brief glance back at the days of 1897, when this association was founded. Perhaps some of you here today were starting in the telephone business around that time or soon afterward, so that many of the things I have in mind will come to you with the added force of personal recollection.

In 1897 President McKinley was in the White House and John Philip Sousa had just written "The Stars and Stripes Forever." *The Ladies Home Journal* for October told how a family of eight could easily be fed for $10 a week—the meals including steak, roast beef and huge breakfasts. Armour & Co. advertised ham at 11 cents a pound and bacon at 10. Apartments and homes were plentiful and cheap. For the ladies, the problem of how far the hem-line should be from the ground did not exist; the skirt went all the way down to the sidewalk—except sport skirts, which were high enough to reveal the ankle. For the gentlemen, one department store offered sterling silver mustache combs for 15 cents each.

Electric lighting had been in use (though not universally) about 15 years, and according to one historian there were four automobiles in the United States. Rural free delivery, too, had just been started by the Post Office Department. Marconi had patented the wireless telegraph. The population of the United States was less than 75,000,000, and here in Chicago there were about a million and a half people. The total annual expenditures of the federal government were between $400,000,000 and $500,000,000 a year, or about what is spent now in three or four days.

The telephone business by 1897 was 20 years old. Throughout the country, a few more than half a million Independent and Bell telephones were in service. Five years previously, the first automatic telephone exchange in the world had been opened by an Independent company at LaPorte, Ind., and the first commercial installation of a common battery exchange had been made in 1893. Thus the beginnings of dial service and of the common battery system, which together were to revolutionize telephony, had already been brought about.

Long distance telephone service in 1897 was extended west to Omaha and Minneapolis. To the south, the lines reached Petersburg and Norfolk, in Virginia, and Nashville in Tennessee. The longest distance one could call from Chicago was 893 miles to Plymouth, Mass., where the Pilgrims had landed. The daytime cost of the call was $10 for five minutes, compared with $1.65 for three minutes today. Nowadays you can telephone Honolulu for a dollar less than it used to cost to reach Plymouth, and a couple of dollars more will take you practically anywhere in the world. In 1897 the people of the United States carried on about a billion telephone conversations a year; today, with not quite twice as many people in the country, the number of conversations has increased more than 40 times over.

Telephone management in 1897 was well aware that the year marked the 20th anniversary of the application of the art of telephony to commercial use. "It is interesting and instructive to note," said the report of the American Bell Telephone Co., "that in the United States, among all the leading nations of the world, is found the highest development of the system, whether measured by the number of people who employ it, the standard of efficiency, or the distances over which conversation is held."

Yet by modern standards the service

of 1897 was limited—and costly. The minimum rate for a telephone in Chicago was $5.00 a month—in 1897 dollars—for four-party residence flat-rate service. The minimum rate today is $2.75 a month—in 1947 dollars—for two-party residence message-rate service.

Bear in mind that today's Chicago telephone user can be connected with any one of nearly 1,400,000 other Chicago telephones, a thousand times as many as in 1897. This means that today the *annual* minimum cost of a Chicago residence telephone, for each 1,000 telephones that can be reached within the local area, is less than three cents, whereas 50 years ago it was more than $4.00.

The same kind of comparison is just as striking for business service and for other kinds of residence service, and is no less impressive in other large cities. I have given Chicago figures simply because we are in Chicago. In medium-sized and smaller communities the overall trend has been the same; the increase in utility and in value to the user of the service has been substantial in most instances and on the average it has been very high.

How has our industry been able to bring about such remarkable progress? How has it been able to more than offset the inherent tendency of the business to require more physical facilities per customer as exchanges increase in size and toll networks become more complicated? Only by continuous improvement of equipment and methods, so that telephone people have had steadily better apparatus to work with, and better ways of carrying on their work to make the service increasingly convenient and attractive to more and more customers.

Fifty years ago there were hardly more than 500,000 telephones in the whole country; methods of operation were cumbersome; transmission was severely limited; and the equipment then in use was hardly capable of doing more. Today, with the development of equipment which can perform far beyond the most adventurous imagination of 1897—and which in total costs more than $12,000 per employe—telephone service is incomparably better in speed, in quality and range of transmission, and in all-round convenience to the user. And the pay-off in growth of service and in the opportunity for employment has been that today there are more than 33 million telephones in the United States—65 times as many as there were half a century ago—and some 600,000 employes in the operating telephone companies which provide the service.

Those are all the figures I intend to use. I have used them simply to illustrate the process by which the industry as a whole most effectively extends the scope and value of its service to the nation. Along with improvement of plant and methods, the increase in quantity, quality and value of service, and the greater efficiency and productivity of telephone employes, have come, of course, shorter working hours and higher wages. These are the direct result of being able to do more work in less time. And the whole process flows out of the ability of all branches of the industry, first, to find better and more efficient ways to do the job, and second, to earn enough so that the savings of investors will always be forthcoming to put the improvements into operation and to provide the plant needed as the service grows.

I want to come back now to the central theme of my remarks and discuss some of the ways in which I believe we can make our team-play most effective. For the sake of emphasis, let me start with the obvious. When the hurricane ripped into the South and Middle West last month, there was only one consideration uppermost in the minds of the people of all telephone companies affected. That was to restore *all* service to *all* customers just as quickly as possible. The sole thought was to do the job for the greatest benefit of the whole community.

That principle is just as important when there isn't any emergency as when there is one. It applies not alone in day-to-day operations but in the planning of future operations in which both Bell and Independent companies are intimately concerned. And it's getting more important every day, because of the overall growth of the service, the introduction of new services, and the application of new techniques and methods. The physical network of circuits linking us together grows steadily more complex. Our activities touch upon each other in more ways and at more points. In short, we are more and more dependent on each other.

We in the Bell System, then, are perfectly certain that the greatest benefits to the public and the greatest advantages to all companies will flow from the habit of considering how any new service, any change or improvement, or any new method affecting joint operations, can best be made to function in the interest of the whole public which the whole industry serves. We want that to be the starting point of our basic thinking, and we intend to keep that view in our consultations with you. We hope you feel the same way about it.

The introduction of telephone service for automobiles and other vehicles is a splendid example of the kind of cooperative thinking and planning that I am talking about. It was obvious from the start that the most careful attention would need to be given to the problems of all companies. Also, since the service by its very nature is quite complicated, it was apparent that there would be great advantage in keeping administrative procedures between companies as simple as possible. Through the joint work of Bell and Independent people, with both groups making important contributions, mutually satisfactory answers have been found to a wide range of problems. Not only so—a tremendous amount has also been done and continues to be done to extend full knowledge and understanding of the whole program throughout the entire industry.

In the same way, the program to extend toll operator dialing has had to be grounded on full consideration of the situations of all companies of all sizes in all parts of the country. I will mention only one typical question: How can the nationwide numbering plan be put into effect without complicating the local numbering and requiring expensive equipment changes at small dial exchanges? To meet this

Curtain raiser for the United States Independent Telephone Association's convention was the Bell System's famous "Telephone Hour," which was moved Oct. 13 from New York City to Chicago's Medinah Temple Auditorium as a salute to the USITA's Golden Jubilee.

Speaking before the program went on the air to a studio audience of more than 4,000 which represented 1,500 Independents and members of the Bell System, Keith S. McHugh, vice president, AT&T, and USITA President R. A. Lumpkin emphasized the close cooperation of Independents and Bell companies to provide the American public with the best in telephone service. Announcer Thomas Shirley told the unseen audience of the work and importance of the Independents.

Nelson Eddy, popular concert baritone and movie star, "let his hair down" after the show and continued to entertain the audience with all their favorite songs for a half hour after the broadcast part of the show was over.

KEITH S. McHUGH, AT&T vice president (left), introduces R. A. LUMPKIN, USITA president, to the audience attending the "Telephone Hour." Mr. McHugh's remarks included a tribute to the more than 6,000 independent telephone companies. More than 1,500 USITA conventioneers attended the broadcast on Oct. 13 at the Medinah Temple Auditorium, Chicago, held in celebration of USITA's 50th anniversary.

LEFT PHOTO: NELSON EDDY, guest soloist on the "Telephone Hour" poses with some of the 50 Illinois Bell usherettes. All the usherettes are telephone employes and drew much praise for their attractive appearance and courteous handling of the large audience. RIGHT PHOTO: DONALD VOORHEES, conductor of the Bell Telephone Orchestra, is surrounded by some of the usherettes after the broadcast.

ABOVE PHOTO: TOM SHIRLEY, known as the "voice of the Bell System," demonstrates to an interested bevy of usherettes, the fine art of radio announcing. RIGHT PHOTO: FLOYD MACK, narrator on the "Telephone Hour" broadcast, gives demonstration of just how he pronounces those tongue twisting musical names.

problem the equipment at control switching points is being designed to translate the nationwide codes received, and send on to the small offices codes which fit in with the existing numbering and equipment arrangements. In a few cases, of course, code conflicts between central offices will need to be eliminated. This is being done by joint study—without regard to company ownership—and with the utmost regard for customer convenience.

The installation of more and more unattended community dial offices offers another example of the way in which units in the industry are becoming mutually interdependent to a greater degree than ever before. Here again Bell and Independent people have teamed together working long and hard to help all of us answer the many questions raised by unattended dial operation, particularly in view of the advent of toll dialing. As a result, notes have been jointly prepared dealing not only with equipment and operating features, but also with cases where it will be found mutually advantageous for one company to do the operating in the master office for the community dial office of a second company. This material will be of wide value to the industry as a whole. And it is worth special mention that these notes point to many opportunities for the larger companies, Independent or Bell, which have had more experience with such problems, to render assistance to smaller companies in connection with their community dial projects.

These are some but certainly not all of the ways in which it seems to me we can do a thoughtful job together to make this All-American telephone team of ours a better team than it has ever been before. I could mention others. The exchange of ideas and information in tackling our common problems on the farm service job has been extremely valuable to all concerned. We have worked closely and well together in considering how power line carrier and joint use agreements with REA cooperatives and the power companies could contribute most to the further development of rural service everywhere. Looking to the near future, as communities served by different companies may come within areas for which extended local service is indicated as a public need, we shall have much to do to work out the most effective possible arrangements.

So this team-work I am talking about is a practical day-to-day job. But it starts with an attitude of mind. In the Bell System we start with the conviction that the industry-wide approach on common problems is essential—that we must look at the whole picture rather than any part of it — and that we'll get the best results if we all look at the whole picture together. We shall want to continue to sit down with you in the planning stages, and in all areas the Bell companies are seeing to it that they have competent, experienced people who will make it their business to cooperate with you on the whole range of joint problems and opportunities.

I believe that all of us on the telephone job in the next few years are going to have our hands full. The everyday pressure of work will see to that. But we shall want to keep the long view too, and this anniversary is the best kind of occasion for looking well ahead.

Today, as we celebrate the first half century of service of this association, there are any number of young men and women 20 years old, more or less, who are just starting out in the telephone business. Year by year, the next half-century of progress will be increasingly theirs; and as they grow into the business, and grow with it, and as the new leaders among them prepare to take the helm, they will want to have from us all the help that we can give. The best way for us to assure them that help, it seems to me, is to keep our own sights high and keep on raising them as we go along. If we do that, and I am sure we will, we can have complete confidence in the job that the young people of today will do when they are called upon to lead the way tomorrow.

No one can now foretell the precise extent and character of telephone service 50 years from now. But there are a few general characteristics that most of us cannot help seeing in our mind's eye. We expect to devise better facilities and to make better and more efficient use of them. We see the means of instant communication made ready at hand everywhere, on land, at sea and in the air, in more convenient and more varied forms. We look forward to a service which in speed, in flexibility and in world-wide usage will infinitely surpass anything that we have ever known.

Unless continuous calamity overtakes the world I see no reason to doubt these prospects, provided only that the will to accomplish them energizes everything we do. And here in this country, our All-American telephone team has greater opportunities than are generally to be found elsewhere.

The privately owned telephone companies of America have always led all the rest of the world in bringing fast, dependable telephone service to offices, homes, and farms. In doing this a great industry has developed giving useful and interesting employment to hundreds of thousands of people. All this has been possible because the job has been done with American zest and enterprise, and because those charged by the public with the regulation of these companies have had the wisdom over the years to permit them to earn enough to secure the capital needed to expand and improve their services.

The social and political events ahead are hidden from us. But we may take heart and hope in the future when we look at the record of the past. With good will between us, whatever new troubles lie ahead—and we may be sure there will be many—can be met and surmounted, to the end that the people of this nation will continue to have an increasingly finer telephone service and always the finest in the world.

Be Master of Your Job

The man who takes a grip on his job and bends his back to the load is the one who counts. For every one who means business, you find a dozen who spend their time falling over their feet or trying to dodge the issue. The sin of this age is hurry. There are too many people eager to get results without completing the process by which they are legitimately secured.

The shameless, skimping, thoughtless indifference, brazen dishonesty and heartless oppression that come through this haste to be through with a task and reap the results is telling upon this generation. It is making us hollow and superficial, and giving to everything a slipshod instability. Do what you have to do thoroughly. Make haste slowly. Let everything that leaves your hands have the impress on it of thoroughness and honesty in execution. Hurry is not hustle. There is a vast difference between that feverish haste that leaves work incomplete and unlasting and that energy that gives to every minute the maximum of effort and pain at the same time.—*Inter Mountain News.*

DIAL INTEREXCHANGE COMMITTEE

By F. E. NORRIS
Chairman

THE Dial Interchange Committee upon appointment in 1945, was charged with the responsibility of studying and reporting on two projects; one concerning Nationwide Operator Toll Dialing and the other concerning the "control office" work which one company might perform for another upon conversion of the latter's exchange to unattended dial operation. The Dial Interchange Committee, with this report, brings to conclusion its responsibilities with respect to this latter project.

Before the end of the war, it was apparent that the industry would experience in the postwar era by far the greatest program in its entire history for the conversion of its small exchanges from manual to dial operation. That program, stimulated by the desire to provide more extensive and improved service to the smaller communities and by economic necessity arising from an ever-increasing expense burden, is now well under way.

Upon the conversion of a telephone exchange from manual to dial operation, certain services required by the telephone users must, of course, continue to be rendered by operators. These include information, intercepting, assistance, repair, emergency and others, which are generally referred to as "control" office services. It obviously would not be economical to retain operators in small exchanges after conversion, to render these services. The problem of rendering these services is quite simply solved when the company making the conversion also operates a nearby exchange from which they may be rendered. When a company considering conversion does not operate a nearby exchange, it then may become necessary to call upon a neighbor telephone company for assistance if the conversion is to prove practicable. Calling for this type assistance in the past has introduced problems all out of proportion to the dollar and cents value of the work to be performed and the facilities to be used. The result of having to cope with these problems has been that intercompany cooperation has been less than might have been desired.

It was your association's views that a careful study of the costs which one company might incur in performing these so-called control office services for another, and other pertinent considerations, would lead to the development of a simplified and equitable formula which companies could easily apply to these situations. With that accomplished, the opportunities for converting small "isolated" offices would be greatly improved.

The objectives of the committee in this connection were these:

(1) Determine what "minimum" control office services should be rendered one company for another, upon conversion to dial.

F. E. NORRIS

(2) Determine what payments may be generally reasonable to cover traffic operating costs and charges for facilities used in connection with handling control office work for another.

(3) Determine what payments may be generally reasonable for the use of one company's toll line facilities in handling control office service calls of another.

(4) Develop an illustrative contract which companies might use either as drawn or as a guide and which expresses the conclusions reached with respect to the foregoing and which also includes other essential considerations.

In arriving at its conclusions the committee studied the experience of a number of Independent companies and exchanges. It found that the services rendered and the cost experience in the majority of the exchanges formed a pattern which could be reasonably used as a guide for exchanges not studied. To emphasize, however, the conclusions reached may not be equitably applied in some cases, and should any company feel that the situation at its exchange is unusual, an individual and independent study should be made.

At the outset the committee believed that the effectiveness of any formula it might develop would depend upon its acceptance by the industry in general—both Bell and Independent companies. Accordingly, the committee's views were discussed with representatives of the American Telephone & Telegraph Co. Subsequently, that company called upon the associated Bell companies for pertinent facts and figures similar to those assembled by the committee. The American company informed the committee that the associated Bell companies were agreeable to entering into agreements with Independent companies—either to perform the control office work for them or have the Independent company perform the control office work for a Bell company — according to the understanding contained in a set of "notes" furnished to the committee.

The committee carefully studied those notes, and after minor revisions agreed to in conference with American company representatives, arrived at the opinion that they reflect a fair and reasonable approach to the control office problem. The views expressed in this memorandum, including the illustrative contract and level of payments, do not conflict with the American company's views in any important respect.

General Conclusions

Before a company agrees to perform control office work for another, it is reasonable to expect that it will want to be assured that the "outside" work will not complicate its own operations. The inter-office circuit features at the unattended community dial office (C.D.O.) should "match" those at the control office, and the requirement for "special" operating technique and equipment should be very minor or not exist at all. It is quite apparent that operations at the control office would be complicated if, for example, it served, say, six C.D.O.'s., all with different service and operating characteristics, or where there may be but one C.D.O. with special operating features, constituting but a very small portion of the traffic work load, but with which a fairly large force of operators must become familiar.

This suggests that before a company contemplating a conversion in connection with which it plans to ask its neighbor company to perform the con-

trol office work proceeds very far, it should contact its neighbor to determine what it must do in cooperation with him, to coordinate operations, if he is willing to help out.

Minimum Services

The minimum control office services covered by this report, and the illustrative contract attached hereto are:

(1) Assisting C.D.O. customers requesting help in completing calls or requesting information as to how to place calls.
(2) Information service.
(3) Intercepting service.
(4) Emergency call service (police, fire, etc.)
(5) Verification of "busy" and "no answer" reports.
(6) Advising the C.D.O. company of service complaints and trouble reports.
(7) Alarm signals.

Upon first consideration, one may feel that in some instances all of these services may not be required. The committee's study, however, leads to the conclusion that whether or not a company states its intention to offer these services, they are either actually or in effect rendered as far as the use of control office operator time is concerned. Assume, for example, that intercepting service is "not offered." A customer calls a discontinued number, gets a ring but no answer and then calls the control operator for verification. If the number has been changed, the same result occurs. If a customer continually gets a "busy" or a "don't answer," for another example, the operator is called for verification. Still another example concerns emergency calls. These must be attended to if criticism to both the C.D.O. and the control office company is to be avoided.

The cost factor in performing these services as a group as compared to attempting to restrict the control office services to less than contemplated is not of sufficient magnitude to cause concern.

It is contemplated that the C.D.O. company will keep the control office company currently informed, in a form acceptable to the latter, of station movement data necessary for information service purposes, and of other pertinent information essential to rendering adequate service.

Time of day service—in addition to the foregoing minimum service—will, as a rule, be rendered only when it is an established practice to render such service from the control office switchboard.

Such special services as furnishing bus schedules, market reports, weather reports, theatre programs, etc. are not provided for in this report. If they

R. A. GANTT (left) of Federal Telephone & Radio Corp., and J. W. WOPAT, Fort Wayne, Ind.

are to be rendered by the control office company, it is to be assumed that the charges therefore will be determined by a separate study. Similarly, this report does not cover the performance by the control office company of such C.D.O. company work as handling service applications, collections and adjustment of bills, accounting and plant maintenance. It is believed that the C.D.O. company will want to retain the responsibility for performing these functions, it being apparent, of course, that arrangements might be made with the local druggist, bank, etc. to handle routine collections and possibly service applications.

Illustrative Payments

This report and the illustrative contract attached hereto (Pages 33 and 34) is intended to apply to exchanges serving up to 1,000 stations. It is the committee's views that there generally may be sufficient variation in the types and extent of services to be rendered to C.D.O. customers served from exchanges with more than 1,000 connected stations, to justify a special study in each such case. Attached hereto as *Exhibit A* (page 33) is an outline which might be used in determining charges in those instances where a special study is desired.

The payment levels covering traffic operations and charges for terminal equipment at the control office were determined by applying generally accepted traffic coefficients to peg counts to produce equated traffic units. The equated traffic units arising from performing control office work for the C.D.O. were related to the total equated traffic units for all traffic handled at the control office. The ratio of C.D.O. equated traffic units to total equated traffic units was applied to the total traffic operating expense and fixed charges for switchboard and the portion of land and building, etc, allocable to traffic operations, to determine the portion of such charges assignable to C.D.O. operations. It is these charges which the payments to be made by the C.D.O. company are intended to cover.

After studying control office charges developed according to the foregoing procedure for a number of exchanges —discarding exceptional data which were extremely high or extremely low —it was concluded that the following payments for the "minimum services" heretofore discussed, and time of day service when rendered, would be reasonable in the majority of cases:

For the minimum services as heretofore defined:

	Per station Per month
0- 500 stations	$ .04
501- 750 stations	.05
751-1,000 stations	.06
For time of day service, when rendered	.01

When one company undertakes to perform control office work for another, it, of course, has a certain amount of expense in maintaining records and reports. These costs are reflected in the traffic cost studies previously discussed and appear adequately covered by the suggested cents per station payments, except in the very small offices. In recognition of this exception, a minimum charge of $3.00 per month for each C.D.O. appears reasonable. This obviously affects only C.D.O.'s of 75 stations or less.

It generally is considered undesirable, from a practical operating standpoint, to divide between two companies the responsibility of handling control office services. This report and the illustrative contract do not contemplate such an agreement. If, however, there are good reasons why the C.D.O. company should handle the control office services part of the time and can get its neighbor company to agree to handle them in "off-periods," the terms and conditions provided for in this report and the attached contract might apply as a guide. It would appear that judgment might be used to modify the illustrative payments, recognition being given to the complications in the control office which might arise from dual responsibility.

Generally, it is expected that the control office company will provide in its switchboard the equipment essential to rendering the control office services, and provision for this has been made in the illustrative payments.

In applying the suggested per station per month figures, it is contemplated that all stations will be counted,

primary, extension, PBX, pay-stations, service stations and others, if any.

The basis for determining what might be reasonable illustrative payments for the use of one company's toll circuits in handling the control office services of another, is proportional circuit usage. Studies of the volume of control office service calls and the applicable holding time of these calls were made. The usage so determined was related to the usage capacity of the total circuit group, to determine the usage ratio of control office to total of all services carried over the group as a whole.

The ratios so developed were applied to the annual charges determined for the circuit groups under study, and the result expressed as a monthly charge per C.D.O. station.

The illustrative charge per group-mile (route measurement) which the committee believes reasonable is:

For circuit usage in handling control office services, per circuit group per route mile, irrespective of the number of circuits or channels in the group ..... $.0005

It is the committee's opinion that rendering time of day service will not introduce sufficient additional circuit usage to justify modifying the $.0005 figure above. If, however, a liberal policy is applied with respect to "completing" assistance calls and other control office services, a charge for circuit usage of $.001 per station per month may be reasonable.

Illustrative Contract

As previously mentioned, there is attached an illustrative contract (Exhibit B) which companies might use as a guide when one company agrees to perform control office work for another. The committee believes that this contract provides reasonable terms and conditions which might be applied to the majority of cases. This is to imply, of course, that it is not applicable in all cases, that special and unusual conditions may exist in some situations to such an extent that this illustrative contract should properly be modified or possibly disregarded. This naturally will be a matter for determination by each individual company.

The services and facilities provided for and the charges suggested by this contract have been discussd before in this report. It would appear that the contract otherwise is self-explanatory. One section, however, may justify further discussion. The second sentence in paragraph three suggests that where the total traffic exceeds the capacity of the existing circuits, additional circuits will be provided by the respective companies in the same proportion that they provide the existing circuits.

Under this provision a company owning toll circuits carrying control office services may, at a future time, be obliged to undertake the reenforcement of the toll group which otherwise might not be necessary if it were not carrying the control office services. It is, of course, assumed that at the time that the agreement is made, the company owning the toll circuits will assure itself of the adequacy of its circuits for all purposes.

While this is a matter to be carefully considered, it is not likely that it will be of controlling importance in many cases. One reason for this is that the control services percentage of total usage is quite small, usually in the order of 3 or 4 per cent and while sometimes more, much more frequently less. This being the situation, it is apparent that the control office services will not usually be an important factor in determining the need for additional circuits. More frequently that need will be determined by growth in the toll business.

The telephone industry for reasons of service and economy has programmed conversions from manual to dial at an unprecedented rate. The practicability of making many conversions, either because an exchange may be a "one exchange company," or because of its remote location with respect to other exchanges in the same operating group, must depend upon the cooperation of its neighbor company.

It is the opinion of this committee, concurred in by association directors, that the needed cooperation will be facilitated and stimulated by a simplified formula, soundly based on fact, which will eliminate the need of costly and troublesome cost studies.

Such studies have been made and an illustrative contract developed. The terms and conditions of this contract may be reasonably applied to many situations of exchanges under 1,000 stations. It is recognized by the committee that those terms and conditions cannot be equitably applied in all cases. Obviously no company is obliged to abide by the illustrative contract—it is presented with the thought that a company may use it if it believes it can be reasonably applied to its own individual case — that obviously being a matter of individual judgment.

The Bell System companies have indicated a willingness to "go along" with an arrangement essentially the same as that described herein. It seems reasonable that Independent companies might perform control office work for Bell companies as well as to call upon those companies to perform control office work for them.

It is requested that association headquarters be informed of the experience gained with this contract, regardless of the character of that experience, as only in that way can the need for changes be determined or its merits judged.

EXHIBIT A

Condensed Outline of Study Basis Which Might Be Used in Determining Payments for Work Performed and Facilities Furnished by One Company for Another Upon the Conversion from Manual to Dial Operation.

Studies have been made of the volume of auxiliary service calls (information, assistance, repair, etc.) originating in a number of community dial exchanges of less than 1,000 stations, together with the traffic expense and switchboard investment and charges related thereto. Also, the circuit time used in handling such auxiliary traffic has been studied and related to the annual charges applicable to circuit groups of various sizes. These studies have led to the conclusion that while there are variations in traffic volumes and costs per station served from the community office, these are in general not sufficiently wide to discredit the applicability of average costs to the average community dial exchange. Studies of these volumes and costs can be very complex and so much so that when undertaken by one not thoroughly familiar with the premises, errors of a greater magnitude than those arising from the use of carefully determined averages may result.

It is recognized that average traffic volumes and costs cannot be applied to every community dial office and this fact should be considered before applying the illustrative contract to a particular case. If it is believed that conditions such as traffic volume, wages, construction costs, etc., within a particular office are unusual, a special study of the particular case may be warranted. To assist in such cases and to facilitate such special studies, basic premises, those used in the development of figures included in the illustrative contract are recommended. These are:

Traffic Costs: For the average month determine the estimated number of equated traffic units applicable to all classifications of auxiliary services to be handled at the control office. To these units apply the total traffic expense per equated traffic unit per month at the control office.

Switchboard Costs: Determine the annual charges for the switchboard investment which will be used in handling the auxiliary services. Divide these charges by 12 to produce the monthly switchboard investment charges. Divide the monthly charges by the total number of equated traffic units for all traffic handled at the control office during the average month. Apply this quotient to the number of equated traffic units resulting from the auxiliary service.

Building Costs: Determine the total annual charges for the building housing the control switchboard and reduce to a monthly basis. If the building is not used exclusively for

traffic operating purposes, determine the percentage of floor area which is so used. Apply this percentage to the monthly charges and divide the product by the total number of equated traffic units for all traffic handled during the average month. This quotient may then be applied to the number of equated traffic units of auxiliary traffic.

Land: Apply the building percentage figure developed above for the portion of the building used for control office purposes to the annual charge figure on land and proceed as above with respect to the number of equated traffic units.

Toll Circuits: Determine the busy hour capacity in minutes of the circuits connecting the control and controlled offices. Determine the busy hour usage in minutes of the circuits for handling auxiliary services and then divide this figure by the capacity figure above to determine the percentage of the circuit usage allocable to auxiliary services. Determine the annual charges on the toll line connecting the control and community dial offices. Divide these charges by 12 and apply the above percentage to determine the portion of the charges allocable to auxiliary services.

* * * *

EXHIBIT B

Illustrative Control Office Agreement

Agreement between
a corporation under the laws of the State of
herein called the CDO Company, and
a corporation under the laws of the State of
herein called the Control Office Company.

1. Exchange Operating Services. The Control Office Company agrees to perform at its _____ exchange, herein called the Control Office, for the CDO Company's _____ exchange, herein called the CDO exchange, the exchange operating services described in Subparagraphs _____ below.

I. *Assistance, Information, Alarms and Intercepting*
Assisting CDO customers requesting help in completing calls or requesting information as to how to place calls.
Verifying "no answer" or "busy" conditions.
Handling emergency calls.
Advising CDO Company of customer complaints and reports of trouble.
Providing information service to CDO customers.
Reporting alarm signal conditions to CDO Company.
Providing intercepting service where CDO is equipped for such service.

II. *Time of Day Service* (Omit if not provided)
Furnishing customers of CDO exchange, upon request, with time of day.

III. *Miscellaneous Special Services* (Omit if not provided)
Bus and train schedules.
Road conditions.
Movie programs.
Etc.

2. Equipment. The Control Office Company will provide and maintain such equipment at the control office as is necessary to perform the exchange operating services set forth in Paragraph 1 above.

3. Circuits Between CDO Exchange and Control Office. The company, or companies, which provide the circuits, either in whole or in part, between the CDO exchange and the control office for the interchange of toll telephone messages will make such circuits available for use in connection with the exchange operating work covered herein. Where the total traffic exceeds the capacity of the existing circuits, additional circuits, to the extent necessary, will be provided by the respective companies in the same proportion that they provide the exist circuits.

4. Basis of Settlement. The CDO Company will pay to the Control Office Company, for its services and facilities used in furnishing the exchange operating services described herein, monthly charges as determined from the following Schedules of Payments subject to a minimum payment of Three Dollars ($3.00) per month.

The schedules applicable for exchange operating services specified in Paragraph 1 above and for use of Control Office Company interexchange trunks are as follows:

Schedule of Payments
Exchange Operating Services

Total Number of Telephones in CDO Exchange	*I Assistance, Information, Alarms and Intercepting*	*II (Note 1) Time of Day*	*III (Note 1) Miscellaneous Special Services*	**Use of Operator Company Interexchange Trunks** *Cents per Circuit Group Mile per Telephone* (Note 3)
	Cents per Telephone	*Cents per Telephone*	*Cents per Telephone* (Note 2)	
0- 500	$ .04	$ .01	$. . .	$ .0005
501- 750	.05	.01	. . .	.0005
750-1000	.06	.01	. . .	.0005

Note 1: Omit if not provided.
Note 2: Amount to be shown in this column to be determined from cost study.
Note 3: Where a very liberal practice is in effect covering completions of assistance and other CDO special service calls and where miscellaneous special services are rendered, a charge in the order of $.001, rather than $.0005, might prove adequate.

The total monthly amount due the Control Office Company will be determined from the above schedule by using the total number of telephones connected to the CDO exchange as of the day the Control Office Company starts to perform the exchange operating services covered by this agreement and will be adjusted as of the first day of each calendar year based on the total number of such telephones as of that date.

5. Monthly Settlements. The Control Office Company will render to the CDO Company monthly statements in accordance with the amounts determined as provided in Paragraph 4 above and remittance in full will be made by the CDO Company within thirty (30) days thereafter.

6. Methods and Practices. The exchange operating services will be provided by the Control Office Company in accordance with the operating methods and practices generally in effect in the exchange of the Control Office Company specified in Paragraph 1 above.

7. Records. The CDO Company will furnish to the Control Office Company, in advance of the day when the exchange operating work is undertaken, all information required by the latter company for establishing records necessary for furnishing the services set forth in Paragraph 1 above, and will inform the Control Office Company promptly of any necessary changes to be made in such records.

8. Liability. The CDO Company agrees to indemnify and save harmless the Control Office Company from all claims for damages arising in connection with the furnishing of such services to the CDO Company, except only such claims which may arise out of the sole negligence of the Control Office Company.

9. Defaults or Violations. If the CDO Company defaults in the payment of any amount due hereunder, or if either company violates any other provision of this agreement, and such default or violation shall continue for thirty (30) days after written notice thereof, the other company may terminate this agreement forthwith by written notice.

The failure of either company to enforce any of the provisions of this agreement or the waiver thereof in any instance shall not be construed as a general waiver or relinquishment on its part of any such provision, but the same shall, nevertheless, be and remain in full force and effect.

10. Cancellation of Previous Agreements. Except as to any amount due thereunder, this agreement cancels all previous agreements between the companies or their respective predecessors covering the performance of the exchange operating services covered by this agreement.

11. Term of Agreement. Unless sooner terminated as herein provided, this agreement will continue in force for a period of one year from the date of execution hereof and thereafter until terminated by sixty (60) days prior notice in writing from either company to the other.

IN WITNESS WHEREOF, the said companies have caused this agreement to be executed in their behalf this_____ day of _____, 19__.

(Name of CDO Company)

Witness:

_____ By_____

(Title of Officer Signing or Signature of Individual if not a Company)

(Name of Control Office Company)

Witness:

_____ By_____

(Title of Officer Signing)

REPORT ON TOLL COMPENSATION

By E. M. BLAKESLEE
Chairman
USITA Toll Compensation Committee

THIS being the 50th Anniversary of the existence of the United States Independent Telephone Association, it seemed to me appropriate to summarize the activities and accomplishments of the Toll Compensation Committee over the past years. The committee has not been in existence anything like that length of time but it did come into being on Jan. 2, 1936.

The committee made its first major contribution to the industry through the submission to the board of directors on Oct. 10, 1939, of a 200-page report analyzing the interchanged toll traffic agreements then being offered by associated Bell telephone companies to their respective connecting companies and making recommendations looking toward a greater recognition of the mutuality of interests of the associated Bell telephone companies and their Independent connecting companies. Upon the approval of and at the direction of the board of directors of this association a copy was transmitted to the American Telephone & Telegraph Co. for its consideration and for such disposition with its associated Bell telephone companies as might appear appropriate.

It was with considerable satisfaction that the committee was able to report at the convention of the association in October, 1940 that the associated Bell telephone companies had offered to their respective Independent connecting companies new and revised traffic agreement forms which not only increased the level of compensation paid to the connecting companies but which embodied practically every principle recommended by the committee's report.

Further increases in toll compensation schedules were made in the year 1941 following a reduction in the long lines toll rates of some $41,000,000 per year in connection with which the Bell System agreed with the Federal Communications Commission that it would save the Independents harmless from losses which otherwise might have been occasioned by the reduction in the long lines toll rates.

It was later found that the amount of revenue involved in the make whole commitment was more or less insignificant and when further reductions were made in long lines rates in 1942, the associated Bell telephone companies made a further increase in commission payments in sufficient amount to more than cover the losses and make the Independents whole by reason of the rate reductions.

When the long lines rates of the American Telephone & Telegraph Co. again came under review late in the fall of 1942 through the institution by the Federal Communications Commission, on its own motion, of FCC Docket No. 6468, the United States Independent Telephone Association asked leave to intervene in the proceedings in the interests of its member companies and thereafter filed a brief setting forth its

E. M. BLAKESLEE

position. We asked specifically that adequate compensation to the Independent companies be included in the costs of the Bell System before rate reductions were calculated; we pointed out that the costs to the Independents of furnishing a mile of toll line were greater than corresponding costs to the Bell System in furnishing the backbone of the nationwide toll system; and, further, we urged that the station-to-station basis of crediting the exchange for its toll functions be recognized and adopted.

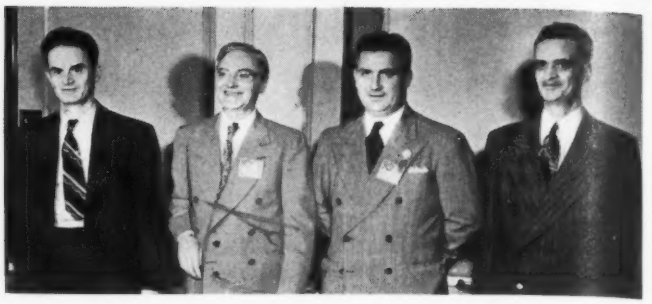
When the issues in FCC Docket No. 6468 finally were settled the Independent companies had gained new contracts containing higher compensation schedules recognizing the increase in costs in handling the toll business since the previous revision of contracts; we had established a two for 1 weighting of the line haul on long lines traffic, and the board-to-board theory of stating toll rates and compensation had been discarded for the station-to-station theory, not only on the long lines rates but the intra-state business as well. As a result of these efforts, the Independent telephone companies had increased their participation in the joint toll business then handled by approximately $5,631,000 annually.

Immediately thereafter the committee undertook the preparation of a form of agreement to apply to that volume of toll business interchanged between Independent telephone companioes and, in June of 1943, published and stocked in the association's Washington office a standard traffic agreement and associated implementing settlement forms which can be obtained through the association's office upon requisition and at cost.

Further reductions in long lines toll rates were made effective as of July 1, 1945, and again as of Feb. 1, 1946. On neither of these reductions was any arrangement made for holding harmless the Independent companies. The committee had discouraged the idea that the Independents should be made whole with each and every reduction in rates, but rather has it contended that the whole question of settlement should be reviewed periodically and the level of toll compensation adjusted so as to insure the Independents of a fair division of the revenues derived from the joint toll business.

These two rate reductions having taken place and in the meantime wages and other costs of handling the toll business having mounted at an ever increasing rate, the committee early in 1946 again approached representatives of the American Telephone & Telegraph Co. with the suggestion that an early further adjustment be made in the toll compensation schedules to recognize these increases in wages and other operating costs.

These discussions and negotiations resulted in additional payments to the Independent companies approximating $3,556,000 a year. This settlement brought about not only an increase in the *Schedule B* payments but it substituted a weighting factor of 1.25 on the mileage of the Independents on all traffic, both intrastate and long lines, for the former weighting of two on the long lines traffic only. This increase in *Schedule B* payments alone was $3,428,000 and normally this would have been attended by a decrease in the net prorate revenue distributed to the Independent companies of $837,000. The facts are that we were able to salvage this $847,000 and actually to



LEFT PHOTO: J. T. ISBELL, A. B. Chance Co. (left) and D. J. WHITE, Everstick Anchor Co. RIGHT PHOTO, left to right: G. P. DILLON and W. C. DILLON, both of W. C. Dillon, Inc.; W. J. GOTSTEIN, Forestville, Wis., and W. L. DILLON, of the Dillon company.

increase the prorate earnings of the companies by another $128,000.

Now, I want to say to you that it has been the policy of the committee that it would not undertake to act in a consulting capacity for any individual member company. Instead the committee has dealt with broad principles recommending the guidance of Independent companies in their dealings with their respective connecting associated Bell telephone companies those things which appeared to be of benefit to the industry as a whole. Committee members have been barred from presenting their specific cases and they have given their vote of approval to principles which were sound without first having determined the monetary effect upon their own companies. This policy has removed selfish interests from the deliberations of and conclusions reached by the committee.

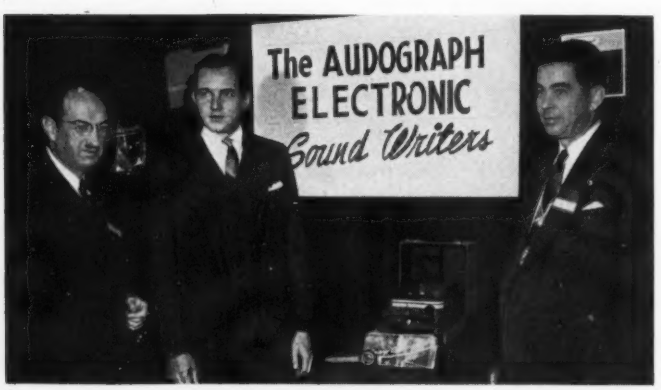
The committee always has recognized that at no time was it empowered to negotiate for any particular Independent company or group of companies. It would be nice, of course, to have all traffic agreements uniform but we have been told repeatedly by the Bell System representatives that if any company felt itself aggrieved or materially injured by the recommended pattern or offered agreement, the associated Bell telephone company with which that Independent company connects will be willing to review the entire toll situation of that company from the standpoint of both terminal compensation and prorates and arrive at a settlement based on the outcome of such individual cost study.

Committee members always have been appointed with the view to giving proper representation to the various geographical sections of the country and in choosing members to serve thereon consideration has been given to the nature and size of the company represented so that the committee at all times has constituted a fair cross-section of the industry. Certain of the members represent single exchange companies while other members are from companies operating a number of exchanges, but even in the latter instances these men represent companies which are sizeable in the aggregate merely because of the operation of a great many small exchanges. Certainly then the interests of the small exchange are well represented on the committee.

It was primarily to give recognition to the fact that from a station-to-station standpoint the unit cost of rendering the toll service is greater for the relatively small exchange than it is for the large exchange that the committee promoted and brought about the separation of *Schedule A* into two schedules identified respectively as *Schedule A-1* and *Schedule A-2*. Sched*ule A-1* is the higher schedule incorporating a premium payment, so to speak, applying to the first 500 messages delivered by each and every exchange. *Schedule A-2* is of relatively lower value and applies to all of those messages in excess of 500 messages from any exchange.

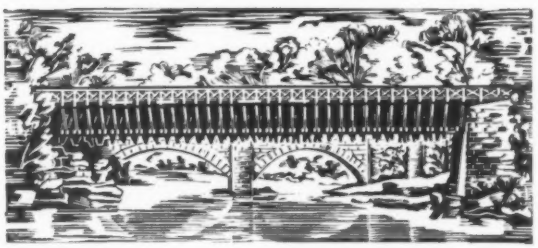
By this device the smaller exchanges have benefited by something more than a million dollars at the present level of toll business although it is obvious that the larger exchange operators have had to forego a like amount in order that this greater amount of money might be distributed among the smaller exchanges.

In closing let me assure you that the Toll Compensation Committee of the United States Independent Telephone Association will continue to work in the interests of the industry as a whole and of the small exchange in particular. Many of you will have problems in connection with the handling of interchanged toll traffic which are peculiar to your own operations and which can be disposed of only through individual treatment. Whatever these problems may be, whether differences of opinion as to routes to be followed, or questions of policy with respect to practices to be employed, it should be remembered that interchanged toll traffic, if it is to be engaged in successfully, requires a harmonious relationship between the respective companies involved. Let us foster these relations and continue to make our respective contributions to the rendering of the finest toll service in the world.



LEFT PHOTO, left to right: ERIC BROOKE, North Electric Mfg. Co.; N. P. PATCH and T. FRANK CASSIDY, JR., both of Gray Mfg. Co. RIGHT PHOTO, left to right: N. H. CASE, Hudson, Ohio; RAY BAUMGART, D. C. LIVINGSTON, and BERT ZARKY, all of Motorola, Inc.

....how much is it worth?



IN 1844, three years before Alexander Graham Bell was born, and long before the first Prairie-Schooner crossed the Mississippi River, John August Roebling's confidence in the suspension principle of construction so impressed the engineers of the State of Pennsylvania, that they authorized him to build the world's first suspension aqueduct.

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When the cable is to be used for direct burial, there can be added a jute protection against soil corrosion. For high mechanical protection, steel tape armor can be furnished.

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ROEBLING

A CENTURY OF CONFIDENCE

EMPLOYMENT RELATIONS

By J. H. AGEE
Chairman USITA
Employment Relations Committee

THE work and activities of this committee have largely centered around federal legislation proposed in the Congress of the United States since our last national convention in October, 1946.

It will be remembered that this committee in the spring of 1946 requested certain members of Congress in both House and Senate to introduce a proposed bill amending the Fair Labor Standards Act of 1938 for the specific purpose of establishing a definite statute of limitations after which time wage suits could not be maintained; to clarify the definition of work week, and the ambiguous dividing line between wage-hour workers and those who were presumably to be exempted; and to repeal the penalties for failure to pay overtime where such failure was not willful on the part of the employer.

We also suggested that employers who had operated under the provisions of interpretative bulletins issued by the Wage-Hour Division should be free from prosecution for violations in the event the court decisions differed from the interpretations of the administrator.

While a recitation of what happened to our suggestions may not be considered as work of our committee, we believe you will be interested in a brief resume of the legislative history of the final bill which became a law this past spring under the name of the Portal-to-Portal Act of 1947.

In the House of Representatives, Congressman Gwynne of Iowa sponsored our original bill in the spring of 1946. Senators Butler and Wherry of Nebraska introduced the bill on the senate side. Both House and Senate passed these bills, but because of slight differences, they were sent to conference, and after being reported out, the conference bill was passed by the Senate and reached the calendar of the House on the day before adjournment. The press of other matters resulted in failure of the House to act on the conference bill. This meant that the proposed legislation was definitely killed and further legislation along that line would have to await the convening of a new session of Congress.

You will recall that following the November, 1946 elections the control of both houses of Congress passed from the Democratic to the Republican Party, and immediately thereafter work was begun on proposed amendments to the National Labor Relations Act.

Early in December your Employment Relations Committee met in Chicago for the purpose of discussing a program for urging the re-introduction of the Gwynne bill to amend the Fair Labor Standards Act and to propose the need for new legislation amending the National Labor Relations Act. The committee's recommendations in these matters were printed in a small pamphlet dated Feb. 10, 1947, entitled "Suggestions for Needed Amendments to Federal Labor Laws." These recommendations were made with the advice and counsel of President Lumpkin and Executive Vice President Bailey and, before being printed, were mailed to the members of the board of directors. Copies were sent to all members of Congress and were mailed to the entire membership of the association, with the suggestion that every member write his congressman and senators asking them to support legislation along the suggested lines.

J. H. AGEE

Congressman Gwynne had promised us at the close of the 1946 session that he would re-introduce his bill amending the Fair Labor Standards Act as soon as the next Congress convened. Early in the year 1945 the United States Supreme Court had ruled that working time, as used in the Fair Labor Standards Act, when applied to iron and coal mines, embraced all time spent under ground — a triumph for John L. Lewis' fight with the coal mine operators in which, as a result of the coal strike and the sympathy extended to him by a political administration, he secured what was called portal-to-portal pay amounting to an extra $2.00 per day for average time spent by a coal miner in reaching his place of work after arriving at the entrance to the mine and returning to the entrance at the close of the day's work.

Following the approval of payment for non-productive time by the Supreme Court, a suit was filed by the union representing pottery workers in Mount Clemens, Mich., in which it sued for pay for every minute of time employed in various ways on the employer's premises, although the time involved was not used for productive work. This meant time used in changing clothing, time spent in the wash room cleaning their hands, time spent in walking to and from the time clocks in order to register in and out, and various other trivial matters. In approving the principle involved in the suit the court, nevertheless, returned the case for determination of definite time involved per employe. Justice Murphy in his opinion stated that the trial court need not take into consideration what he called "split-second absurdities." The retrial of the suit resulted in a reversal of the original judgment.

Before this case was finally decided, hundreds of similar lawsuits had been filed against employers throughout the country. We do not know the total amount involved in these lawsuits, but they were reliably reported to exceed a total of five billion dollars. It was evident that if these lawsuits ended in judgments for the amounts asked, in many of the cases the companies against which the judgments would be rendered would be forced into bankruptcy. It was apparent that this country was faced with an economic problem of major proportions.

Congressman Gwynne saw the need for immediate remedial legislation and at once prepared and introduced into Congress what was known as the Portal-to-Portal Act of 1947. This bill passed both branches of Congress and was approved on May 14, 1947. Although it was reluctantly signed by President Truman, who particularly objected to everything in the bill except outlawing of the portal-to-portal pay provisions, it has become a part of the law of the land.

We believe a brief summary of this law will be of interest to the membership of the association:

(1) Existing portal-pay claims not based on contract or plant practice or custom are outlawed.

(2) Compromise settlements of existing wage-hour claims are permitted within lower limit of 40 cents an hour for straight time and 60 cents an hour for overtime.

(3) Future portal-pay suits based on any kind of travel or non-production activity before or after the workday are outlawed unless activities are already being paid for under contract or plant practice or custom.

(4) Representative suits brought by unions on behalf of employes instead of by employes themselves are prohibited; employe class actions require consent in writing of each employe participating.

(5) Two-year limit is placed on time of bringing future wage-hour actions. Wage-hour actions (other than portal-pay suits) pending as of date of act must be filed within 120 days; in such actions recovery may be sought for two years back or the period provided by state law, whichever is shorter.

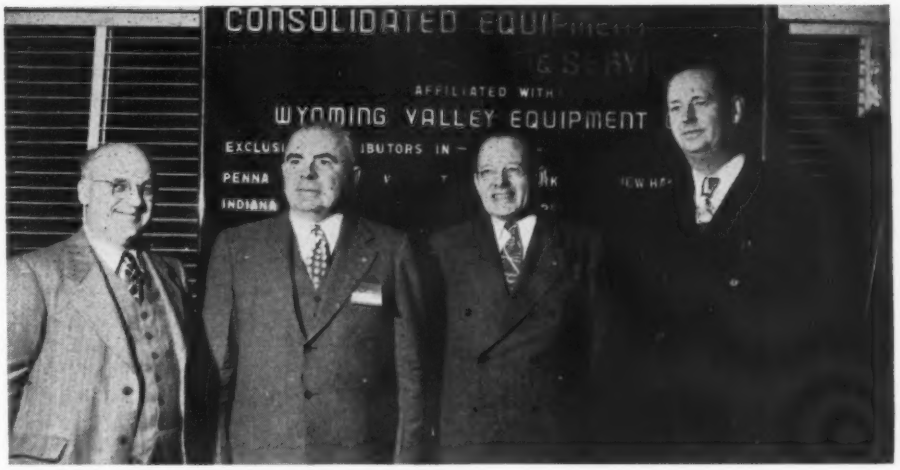
(6) Good-faith compliance with *any* unwritten administrative ruling, order, etc. by *any* government official will be complete defense in any wage-hour action involving violations which occurred prior to passage of this act; for violations thereafter, *written* rulings by *specified officials* administering wage-hour laws will provide a similar defense.

(7) Liquidated damages in FLSA suits may be denied by courts on finding that employer's violation occurred in "good faith."

(8) Changes in "area of production" regulations will not result in creation of any retroactive liabilities for employers.

Specific credit should go to Mr. Bailey for his work in Washington on behalf of the bill, and we want to thank all of our member companies which contacted their congressmen and urged the passage of this bill. Our committee kept in touch with the progress of the bill throughout its stormy session in Congress. During the 14 days when the bill lay on the President's desk without signature, we were concerned for fear it would be vetoed. Mr. Bailey's telephone call from Washington advising that the President had signed the bill was one of the most pleasant items of news which we received this year.

While the Portal-to-Portal Act is probably of great interest to most of our smaller companies, it has not received the national attention which has been given the Labor-Management Relations Act of 1947. This law, known as the Taft-Hartley Law, became the most important piece of national legislation devoted to domestic affairs with which Congress had to struggle during the past session. A large number of bills proposing to amend the National



Left to right: F. W. MYERS, Marmon-Herrington Co.; W. G. ARNOLD, Consolidated Equipment & Service Co.; A. R. DITTRICH, Marmon-Herrington, and W. R. WALLACE, Jaques Power Saw Co.

Labor Relations Act were introduced in Congress but finally centered on one bill introduced on the senate side by Senator Robert Taft of Ohio and on the House side by Representative Hartley of New Jersey. . . .

The opposition to the enforcement of the provisions of this new law has developed to a place where it is almost shocking to the thoughtful, conscientious American citizen. Organized labor is apparently determined to disregard the law in every possible way.

In this twosome are, left to right, H. A. BROWN, Cooperstown, N. D.; ALLEN H. KLUGE, Forest Junction, Wis.

We believe that the provisions of the Taft-Hartley law are unquestionably fair to both labor and industry, but labor is apparently unwilling to give it an honest trial and has already announced that it will oppose, by the full strength of its membership, the re-election of every member who voted for this bill.

We shall not try to analyze the bill in this report. . . .

We believe that the continuation of a democratic form of free enterprise under which this nation has become the most powerful in the world and in which we enjoy the highest standards of living of any people on the face of the earth requires that both labor and industry observe the provisions of this law.

This report would not be complete if we failed to direct attention to numerous bills in Congress which propose to amend the Fair Labor Standards Act by materially increasing the minimum wage and by eliminating the exemption of telephone operators in exchanges of less than 500 stations. Vice President Bailey appeared before the sub-committee of the labor committee in the House and read a most excellent statement regarding the labor situation in the smaller exchanges of the Independent telephone industry. Copies of his statement have been mailed to our entire membership, and many letters of congratulations have been received.

Further hearings in this matter are scheduled before the sub-committee in Washington during the month of November. It is not anticipated that we will make a further appearance unless it becomes necessary to oppose any attempt to repeal the amendment for the passage of which this association worked so earnestly and successfully in 1939.

We believe that wages paid by our industry should always bear direct relation to wages paid for similar employment in the communities in which we operate. We believe this is a sound platform upon which to stand. The cost of telephone service depends to a large degree upon the cost of labor needed in rendering service. The interests of the public demand that telephone service shall not be priced out of the market. Surely there is a middle ground upon which the industry and labor can meet with fairness to labor, industry, and the public. To this end our committee has devoted its efforts.

REPORT ON STATUS OF RADIO

By E. H. B. BARTELINK
Radio Engineer
General Telephone System

I General

RADIO-TELEPHONE systems may be divided into those for "general service," that is systems which permit a tie-in to the wire-line system and thus enable their subscriber to talk to anyone that can be reached through the wire system; and "isolated systems" which do not permit such a tie-in.

The systems designed for "general service" are considerably more complicated than the isolated systems. This holds for mobile as well as for point-to-point systems. Some of the additional complications result from the fact that a radio channel is equivalent to a four-wire telephone-repeater system and must be matched to the wire network by means of a hybrid system and also from the need for supervision signals which must give the operators calling, recall, and disconnect signals of the identical type as the standard telephone operations. In addition to this, the engineering problems, such as proper locations for radio systems, and the commercial problems, such as intercompany coordination in adjacent and overlapping areas, often require analysis and solution on a regional or nationwide basis.

In spite of the greater complication, the telephone companies have considered it their duty to spend a lot of effort on the problems of general-service radio systems because they constitute the only group that has the facilities to provide such an extensive service and because they have the background of experience which is necessary to build it up. As a logical result of the much larger scope of the problem, the progress in this field may at first appear to be slower than that in the isolated systems. A closer review, such as will be given in this report, will show that a very considerable amount of groundwork has been accomplished and that the telephone companies have proceeded on the theory that it is better to review the problem thoroughly at this time than to find that steps taken in too much haste prevent further growth on a nationwide scale unless a large number of already established systems are scrapped.

The amount of work involved in preparation for these general-service systems for nationwide coverage should not distract the attention of the telephone companies from the importance of isolated systems. Many companies are well aware of this and are giving proper attention to such isolated systems. They definitely constitute one form of service which the customer needs and should be given. Because they are not tied into the rest of the telephone system, any needs for later modifications are not nearly as serious in their effects as they would be in a general-service system.

In a number of telephone companies, the mobile radio service has been given a larger share of attention and effort than the point-to-point service; and the

E. H. B. BARTELINK

mobile service has certainly been given much greater publicity. The importance of the point-to-point service, however, can hardly be overemphasized. It promises to end the present isolation of many communities and homes and might constitute one of the major possibilities for future growth of the telephone industry. In line with this, one of the larger Independent groups, the General Telephone System, has spent a great deal of effort in this problem and expects to complete the development work of a single-channel radio link for just such purposes in the very near future. Across the Canadian border, a large number of such channels are already in operation.

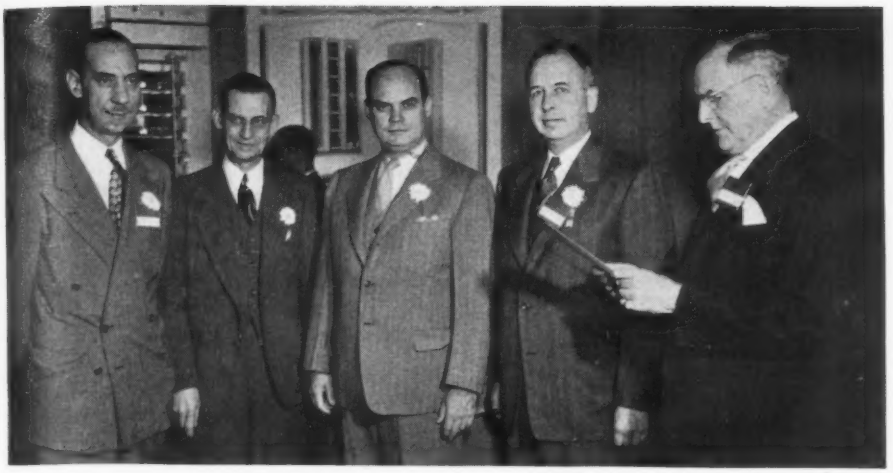
In addition to the single-channel circuits, multiple ones, having for instance four channels, still promise appreciable savings and improved service in a number of locations.

All the possibilities for future radio-telephone developments are completely dependent on the policies which the Federal Communications Commission is expected to lay down in the near future. The FCC holds the key which can lock or unlock the vast region of possibilities which radio offers to the telephone companies for giving more complete and more comprehensive telephone service throughout the country.

II Mobile Radio

General-Service Systems—Preparatory Work. It was mentioned in earlier USITA meetings that several makes of radio equipment are available which will give good and reliable transmission and permit the operation of a supervision relay in the fixed-land receiver whenever a carrier is received from a mobile unit. It was also mentioned that selective systems, which permit the alerting of one particular customer and which are a definite necessity in systems used for public service, have been developed and that at least one make of "control terminal" is on the market which will permit the interconnection of the different radio facilities with the wire system. Having these tools in hand, it may be in order to review the further preparatory work that is needed in connection with the general-service mobile systems.

When a number of systems are to be operated in the same region, it is no longer sufficient that the equipment transmit speech and operates a carrier relay, but it must then meet much more stringent specifications, particularly in regard to selectivity, in order to avoid mutual interference. Determining the exact performance of different makes of equipment involves a large amount of engineering work which, if at all possible, should be completed before any large-scale orders are placed. It may be helpful to cite one specific example of how such performance data may be obtained. The radio department of the General Telephone System has prepared a detailed questionnaire on the performance of transmitters and receivers, incorporating a series of rigid testing specifications. These questionnaires were sent to the manufacturers and will on their return serve the dual purpose of giving data for the selection of equipment and of providing performance specifications for equipment that is ordered. Such data should, if at all possible, be followed up by laboratory tests made by the



Left to right: C. G. JACKSON, RALPH ENGSBERG, L. J. DENNEY and I. W. GLEASON, all of Federal Telephone & Radio Corp., and J. B. HALEY, Austin, Tex.

telephone companies themselves and by field tests, which should again be conducted such a way that comparable data result.

Another problem requiring appreciable engineering preparation is the choice of proper locations for mobile systems. These problems occur in some measure in urban systems wherever cities are located closely together, but they are particularly important in highway systems which must be spaced close enough so that continuous coverage along the highway will be obtained and yet spaced far enough to reduce the overlap areas to a minimum. A number of different layouts must, as a rule, be investigated for each region before a proper solution is found. Several conferences have been held for this purpose involving the engineering staffs of Independent and Bell companies, and their outcome has been very satisfactory. Once the general location of a system has been determined, there remains, of course, the regular engineering problems of system layout, selection of the particular transmitter and receiver sites, etc.

A number of commercial problems arise when radio services are introduced. One of them concerns the determination of rates. The Bell System made rate studies prior to the opening of the St. Louis mobile service and, in general, these rates have set the pattern for all other systems.

In addition to this, special commercial problems arise wherever the coverage of one radio system will extend over the territory of an adjoining company which operates under different management. The problem of intercompany commercial arrangements has received considerable attention by both Independent and Bell companies. Taking account of this whole situation and following a number of informal talks with representative members of the Independent segment of the telephone industry, the Bell System in the summer of 1947 issued a complete set of proposals for such intercompany coordination. These proposals were the subject of a joint conference between the Bell System and the USITA. The impression obtained from these proposals was that the Bell companies had done an exceedingly fine job towards arriving at fair settlement proposals. On some points modifications were suggested and adopted, and the revised material was made available in a USITA letter issued by Mr. Bailey. Because of the large amount of commercial interest in the question of where mobile systems, particularly highway systems, will be located, the regional conferences mentioned before were attended by commercial as well as engineering staffs and the existence of a satisfactory plan for intercompany coordination has proven of extreme value in these meetings.

In order to give prompt service to mobile radio customers without the necessity of educating and training a completely separate group of operators, the traffic handling methods for mobile systems must be blended with those now in existence for wire-line operations. This means that traffic instructions must be worked out, which may vary from one location to another. In territories where more than one telephone company is planning to provide mobile service and appreciable overlaps result, such traffic instructions can involve an extensive amount of study and work, as demonstrated by the fact that the traffic instruction issued for the Long Beach mobile radio system, where this case occurs, fill a 12-page pamphlet.

While groundwork has been accomplished on other items connected with the general-service mobile systems, it is believed that the preceding review contains at least the major items.

Urban and Highway System. It seems important that the maximum number of highway coverages be provided at the earliest date, as this would make mobile service available over the greatest areas in the country. The logical step would then seem that any company entering the mobile field first build a highway station and through it give service to the local customers. When the traffic grows, these local customers will then be transferred to a separate urban system to be erected for the purpose. In view of the definite need for mobile service, it is expected that this second step will follow the first one very closely. In many cases, this approach is now being followed.

Left to right: W. W. CASE, Hudson, Ohio; R. T. SNYDER, Buckeye Telephone & Supply Co.; M. K. HOLMES, Owen-Illinois Glass Co.; R. L. HEPNER, Buckeye company; E. T. PIPPETT, Transandean Associates, Inc., and W. C. SNYDER of the Buckeye company.

According to the needs of the customers, they might be divided into local customers, who will not travel beyond the urban area; regional customers, also called "full-roaming" customers, who will regularly move through a complete regional area; and "limited-roaming" customers, whose travels extend over only two or three cities. It may be possible in the future to differentiate in the equipment given to these various groups of customers and to obtain certain economies in the case of the limited-roaming or local customers.

(Please turn to page 46)

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to the U. S. I. T. A.

THANK YOU

—for the warm and friendly welcome which we received at this, our first exhibition in your Annual Convention.

—for your interest and enthusiasm in the many new telephone developments which were shown in our exhibit.

—for the expressions of confidence and good will which were extended to us by your representatives.

We consider it a privilege and an honor to have been among those present.

CONGRATULATIONS

—on your 50th Anniversary.

—on the tremendous strides which it represents in the field of telephone service.

—on an outstanding convention which you can view with justifiable pride in a job well done.

In the years ahead, we, here at Federal, hope to play an ever increasing role in contributing to the progress of America's Independent Telephone Operating Companies—to help you give improved service, to more subscribers, at a minimum cost.

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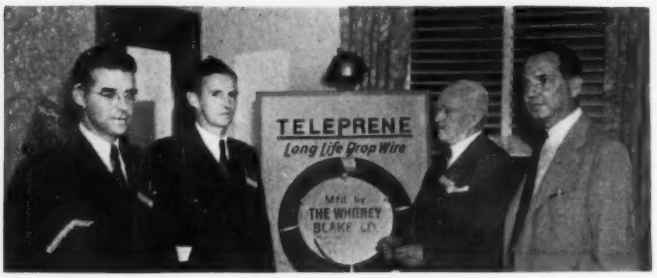

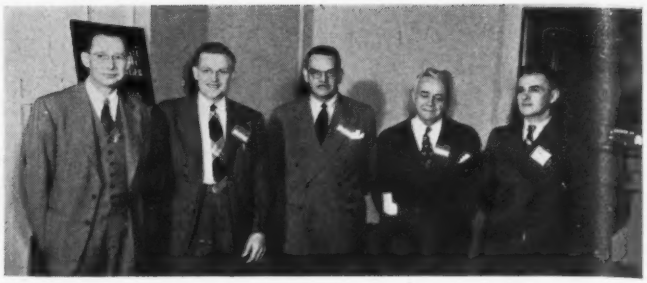

LEFT PHOTO, left to right: C. G. CUMPSTONE, Whitney Blake Co.; A. A. FINCHER, JR., Canton, Ga.; R. A. MILLER and J. L. COLEMAN, both of Whitney Blake. RIGHT PHOTO, left to right: R. QUINBY, J. EIBYE, and R. B. RITTER, all of Raytheon Mfg. Co.; W. H. FOWLER, Pella, Ia. and I. S. KERSTETTER, Lansford, Pa.

Financial Aspects. In an earlier USITA meeting some figures were quoted on the cost of operating a general service mobile radio system. A recent recheck of this situation resulted in materially the same figures, namely a total yearly expense of about $9,000 for amortizations, maintenance traffic and commercial expenses and a net revenue per car of about $60.

Considering that the maximum number of customers is in the order of 75 per system this results in a yearly loss of several thousands of dollars. Some mention was made in an earlier meeting of development work carried on by General Telephone on a simpler selector. This development work has been completed, the laboratory tests have been satisfactory. The production model of this unit will be completed within a month and will then be field-tested. The system can be operated through the existing control terminals provided one panel is added to them. It is expected that the selector units will permit a saving of about $200 in the mobile installation. This would raise the revenue per car to about $100 per year and go a long way towards making the system self supporting. It should be possible to effect the remaining savings needed to break even in a general service system by proper organization of maintenance and traffic procedures. Further savings may be possible in the future through the use of trunking systems on which some development work is now being done by General Telephone.

It may also be of interest to mention some of the results of a preliminary cost analysis for isolated systems. It is expected that such systems would cost approximately $22 per month for systems without, and $25 per month for systems with, selective calling. For these charges the customer would of course have unlimited service.

Present Status of Systems. As is to be expected from the number of large cities served by this group, the Bell System has by far the greatest number of general service mobile systems in operation. They are operating 55 urban and 26 highway systems at the present time and provide service in 61 cities. Construction is in progress on at least 35 additional urban systems and further plans are active on a large number of highway and urban systems.

In the Independent group, the total number of general mobile systems which is in operation, under construction, or in the definite planning stage, is at least 27; and it is expected that this number will be extended considerably. Some idea of the extent to which this service may grow in the Independent field may be gained from the fact that Associated Telephone Co., Ltd., Santa Monica, Calif., expects that satisfying the demand for service in the Long Beach area would require four urban systems in the immediate future and twice this number within the next few years.

Isolated Systems. These systems promise to become of major importance in the future. They are much simpler to construct and, therefore, cheaper in operation than the general service systems. At the present time there are no cases known in which an Independent company is operating such a system. The Bell System operates a large number of such isolated services, and they extend from taxicab systems with just a few cars to the statewide network which the New York Telephone Co. has built up for the New York state police.

There are a few indications that groups which thus far operated their own isolated services might approach the telephone companies with requests that they take over such systems and operate them. Such a transfer may make sense in many cases because the owner of an isolated system finds himself operating a communication system in addition to his own business, while maintenance of such systems would go along as part of the normal activities of a telephone company. There is an important advantage to the users of such systems if the telephone companies own and maintain them due to the fact that congested radio conditions in the area may make it necessary to introduce more refined equipment in order to give acceptable service. In this case the private owner would have either to scrap his system or to sell it under unfavorable conditions, while the telephone companies would have greater possibilities in the re-use of the equipment in some other area where no congestion exists, thereby salvaging nearly all the investment.

The importance of these isolated systems was stressed in a talk at an earlier USITA conference. Service of

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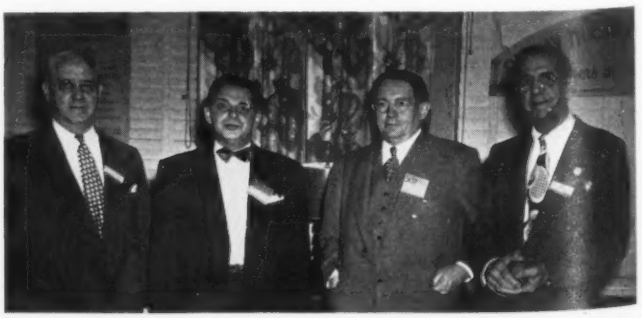


LEFT PHOTO, left to right: C. D. SMITH, Cable Spinning Equipment Co.; JOHN NIPPERT, Festus, Mo.; MR. and MRS. D. J. NEALE, Cable Spinning company and Neale Construction Co. RIGHT PHOTO, left to right: GUSTAV HIRSCH, M. STAUB, J. S. COVER, all of Gustav Hirsch Organization, and R. K. JUDY, St. Marys, Ohio.

TARIFFS AND TARIFF FILINGS

By H. W. PIKE
Member, USITA
Commercial Committee

ONE year ago I made some comments to the commercial conference on tariff refinements.

Because of the increasing importance of the rate portion of tariffs at the present time, the chairman of our Commercial Committee has suggested that I briefly review my comments of a year ago and then state some additional views which I have on the subject of rates.

Last year I emphasized the desirability of having all of the rates, rules, and regulations in typewritten or printed form and filed with the regulatory commission. I also mentioned some of the desirable provisions to be included in such rules and regulations or "tariffs," as they are technically called.

Mention of a few of the advantages of filed tariffs might be proper at this point. Probably the most persuasive reason is that when the rules and regulations are reduced to typed or printed form, the management and supervisory employes are relieved from repeatedly deciding numerous questions, because the answers to many of the important questions are in the tariffs and available to employes who need the answers.

This method also insures uniform and non-discriminatory treatment of customers, and helps new employes to absorb the rules and practices more accurately than if they are merely mentioned verbally and a bit at a time.

While thinking of reasons to include here for having tariffs filed, it occurred to me that I have never heard a suggestion from any of our people that a single one of our tariff provisions should be eliminated. Changing conditions do bring suggestions for modification and enlargement, but never for making it smaller.

Again, I want to urge the representatives of those companies which do not have complete tariffs to get all of their rates and rules and regulations into written form, and then take a look at the filed tariffs of some of the companies in their territory as a basis for completion of their own tariffs.

A few of the state telephone associations have prepared skeleton tariffs for use of their companies, and if your state association has done anything along this line, I would recommend that it be followed as closely as you can.

As I see it, however, the important thing is to get a complete tariff filed, and either your state association or some of the operating companies in your territory undoubtedly have a tariff which will be a good model to follow.

So far, I have spoken of the tariff only in a general way, but in order to properly "peg" some of my comments, it is desirable to separate the tariff into its two major parts, which are generally referred to as the "Toll Tariff" and the "Exchange Tariff."

I think it is necessary to make only

H. W. PIKE

a few remarks here regarding the toll tariff. Most of the Independent companies use Bell system toll rates except where there may be a few special toll rates in effect which are different from the standard Bell rates. Accordingly, the most practicable method of handling toll rates is to state that the company concurs in the toll rates established by whatever Bell system company is operating in its state, and then if there are some special or nonstandard rates, indicate that such rates are shown elsewhere, either in the toll tariff or in connection with the rates for individual exchanges.

As a matter of convenience, the "Exchange Tariff" which I previously mentioned is usually divided into two parts which are referred to as the "General Exchange Tariff" and the "Local Exchange Tariff."

When the exchange tariff is divided along these lines, it is customary for the general exchange tariff to contain the rules, regulations, and charges which are applicable to all exchanges and the local exchange tariff is set up separately for each exchange and contains rates and practices applicable only to a particular exchange.

All of this may seem rather technical to those of you who do not have complete tariffs, but it is only a logical arrangement of all of the items which are involved, and is simple and workable in actual use.

If a company operates only one exchange, the various divisions of the tariff are, of course, unimportant, but whenever more than one exchange is operated it will obviously be much easier to have the rules and regulations for all exchanges as uniform as possible, and all of these items which are uniformly applied ought to be in the general exchange tariff, and have only the rates and special rules and regulations applicable to particular exchanges shown in the local exchange tariff.

Some of the uniform provisions which experience shows are desirable for inclusion in the general exchange tariff, either by a new filing, or by supplement or amendment, are as follows:

Initial Contract Periods: Although the initial or minimum contract period for most types of service is one month, installations such as PBX systems, intercommunicating systems, or any other installations of service which require abnormal investment or installation costs may reasonably require an initial contract period of from one year to five or even more years.

Application of Business and Residence Rates at Various Locations: The general exchange tariff ought clearly to set out the basis upon which business rates and residence rates are applied. Although it is not difficult to make the proper classification in most instances, there may occasionally be a rather questionable case, and it is suggested that the best method to follow in setting up a regulation on this subject is to examine the tariff provisions of one or more of the larger companies operating in your state.

Directory Listings: Limitations as to the number of free listings, and the kind of listings which will be permitted, should be adequately covered.

Use of Service and Facilities: Under this general subject it is customary to include several provisions which are important in rendering satisfactory telephone service.

It is desirable to state that all facilities shall be owned and furnished

by the telephone company, and that the telephone company shall have the right to enter the customer's premises for the purpose of inspecting, repairing, or removing such facilities.

A regulation should be included to prevent the attachment or use of any equipment not owned by the telephone company, and provide that tampering with the company's equipment makes the equipment subject to disconnection or removal.

It is also desirable to provide that telephone service is furnished only for the use of the customer, his family, employes, or business associates.

In order to make party-line service reasonably available to all customers on the line, the tariff should include a provision that customers on party lines shall not interfere with an equitable use of the service by other customers. If the duration and number of local messages by a party-line customer is so great as to prevent equitable use by others, the telephone company should reserve the right to require the customer to contract for a higher grade of service or discontinue the service of a customer making unreasonable use of the line.

It is also desirable to limit the use of party-line facilities for a local message to five minutes.

Telephone Numbers: Every tariff should clearly set out that the customer has no property right in the telephone number, and that the telephone company may change any number whenever it deems it desirable or necessary to do so.

Telephone Directories: It is customary to provide that telephone directories are issued to customers in the form and to the extent necessary for efficient use of the service.

It is particularly important to state that the telephone company does not assume responsibility for errors or omissions in preparing or printing the directories.

Service Stations: Exchanges which provide central office facilities to service station lines, or switched lines, ought to include regulations stating the maximum and minimum number of stations per line which will be served, and the terms under which facilities of the telephone company will be furnished. It will often be found desirable to provide that bills for service station customers will be rendered to an official of the service station line and that payment will be received from him, rather than to render and collect individual bills for each party on the service station line.

Overtime Work or Interruptions of Work by Customers: It is highly desirable to provide in the tariff that if the customer has work done on his premises when overtime rates apply, or interrupts such work after work is begun by the telephone company, that all labor costs incurred in excess of any fixed charges applicable to such work shall be paid by the customer.

Disconnection for Unreasonable Interference: It is desirable that the tariff provide for immediate disconnection whenever any customer so uses the service as to interfere with or molest other telephone users, or for the use of the service for any purpose other than as a means of regular telephone communication.

Profane or Indecent Language: A tariff provision prohibiting a customer from using profane or indecent language over facilities of the company is highly desirable, and provision for discontinuance of the service of habitual offenders should be included.

The foregoing items seem to me to be among the most important things to be included in a general exchange tariff, but there are a good many other rules and regulations which properly belong there, such as, form of application, establishment of credit, deposits, service connection charges, move and change charges, termination of service, joint users, public and semi-public service, rural line extension rules, mileage charges, miscellaneous equipment, PBX service, seasonal service, wiring plants, and various other rates and practices which you may consider important.

Last year I did not make any comments about rates. Because of their importance at the present time, however, I think it would be desirable to mention briefly some of the things which might be considered in establishing new exchange rates.

At the outset I want to say that exchange rate-making involves so many factors that I cannot hope to cover all of them. Furthermore, I do not pretend to know what all of these factors are in all parts of the United States.

On the other hand, it does seem to me that there are some angles which are more or less common to all exchanges, and it is these which I propose to mention briefly for whatever value they have in the rate problems which face each of us.

In establishing new exchange rate schedules, there seems to be a definite trend in the direction of so-called "group rates" for companies operating exchanges of various sizes.

Group rates for any particular company provides a uniform rate schedule for all exchanges of approximately the same size and the same type of service.

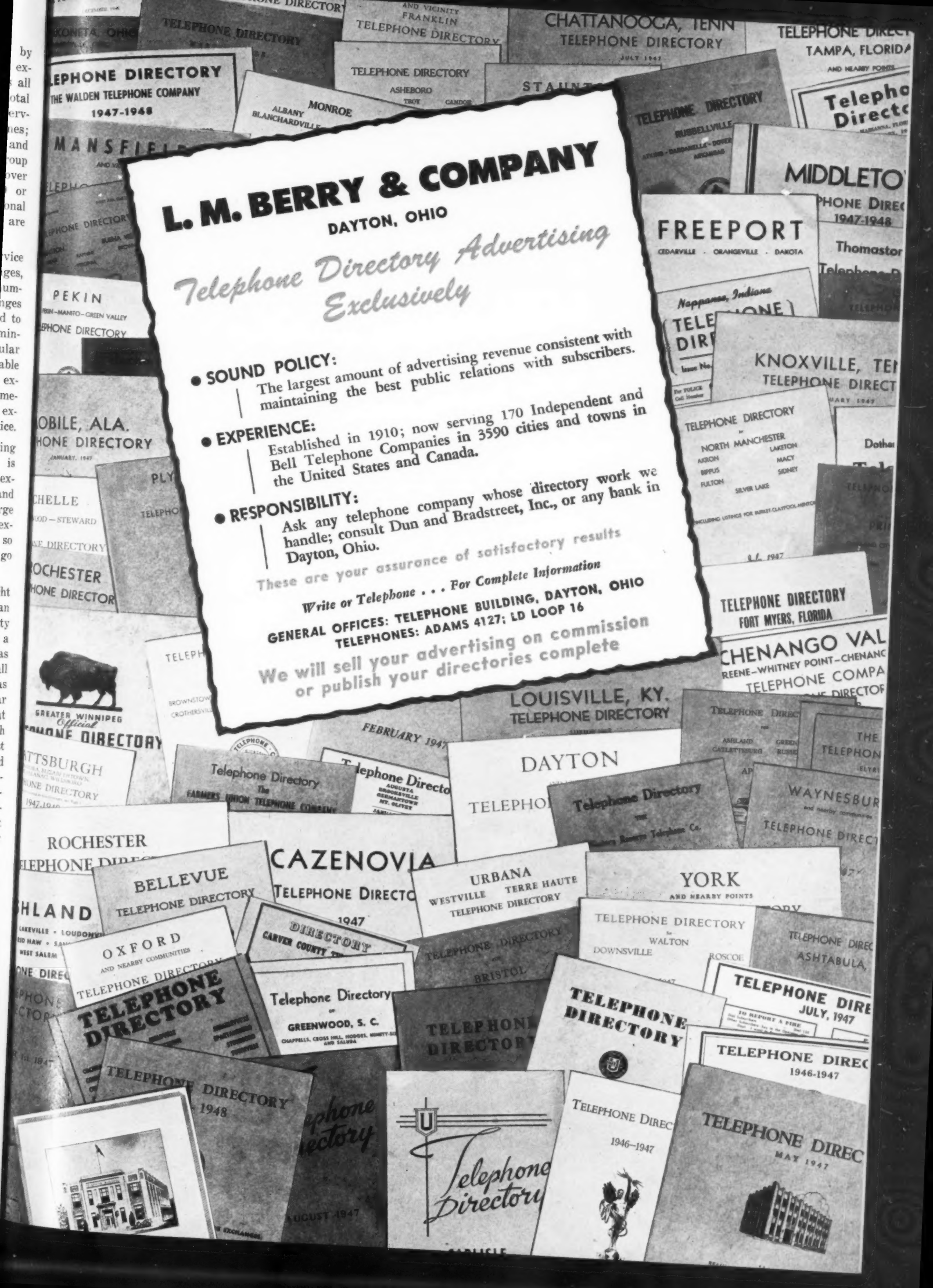
As an illustration of grouping by size of exchange we might, for example, designate the first group as all exchanges serving 200 or less total telephones, the second group as serving over 200 and up to 500 telephones; the next group as serving over 500 and up to 1,000 telephones; the next group might include exchanges serving over 1,000 telephones and up to 2,000 or 2,500 telephones; and with additional groups if still larger exchanges are operated.

In instances where free toll service is granted to one or more exchanges, it is a frequent practice for the number of main stations in the exchanges to which free toll service is granted to be included in the count for determining the group in which a particular exchange falls; or some other equitable basis may be used for placing an exchange with free toll service in a somewhat higher group than a similar exchange which has no free toll service.

On the whole, the cost of rendering service in the larger exchanges is higher per station than in small exchanges, and rates normally are and should be higher for service in a large exchange than in a very small exchange. I think this situation is so obvious that it is not necessary to go into all of the reasons for it.

Along this line, however, I might mention that not long ago a rate man for an electric light and power utility told me that one of his customers in a small town had asked him why it was that electricity cost more in a small town than in a large town, whereas telephone service cost less than similar service in a large town. We talked at some length about the factors which brought about the differences in cost and among other things mentioned what might be referred to as the "economics" of the two businesses were entirely different because of the wholesale characteristics of electric light and power, in that every kilowatt-hour is the same; whereas every telephone message is a made-to-order job and every pair of wires serves only one or more customers on that particular pair. A great deal more could be said on this subject, but I have only mentioned it here to indicate the difference between rate making for an electric utility and a telephone utility.

The design of rate schedules for exchanges which fall in the various groups deserves a good deal of consideration. In my remaining comments on rates, I am going to assume that the principal types of service to be furnished will consist of one and two-party business service and one, two, and 4-party residence service within the local base rate area, and that busi-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ness and residence multi-party service, or rural line service, will be furnished within the rural area surrounding the local base rate area. When I speak of the local base rate area I mean the area within which the one, two, and four-party service will be rendered without any additional charges for mileage.

It is my own opinion that the starting point for setting up group rates should be four-party residence magneto service in the exchanges which fall in the smallest group which, in the illustration I previously used, would be those exchanges of 200 stations or less. I believe this should be the starting point for the reason that it is the lowest grade of local service available in the smallest communities, and I think this particular rate should be kept just as low as possible, consistent with the over-all financial requirements of the company.

Assuming that we have adopted a rate for this lowest grade of local service in the smallest communities, I believe the next step is to establish a reasonable and proper rate for one party residence service in these same communities. In examining the rate schedules for one-party and four-party residence service of a good many mid-

Left to right: LOREN BERRY, JR., and J. P. WHITE, both of L. M. Berry & Co.; J. N. JOHNSON, J. N. Johnson Co.; W. L. GRIMES, R. R. Donnelley & Sons Co.; L. V. STINSON and JOHN BERRY, both of L. M. Berry & Co.

Left to right: O. W. STUBBLEFIELD, Ipava, Ill.; N. M. SHENK, Tampa, Fla.; DAN McNULTY and AL WILKENS, Telephone Repair & Supply Co.; J. H. VAN HORN, Wilcox Electric Co., and R. M. SANDERS, Runzel Cord & Wire Co.

dle-western companies, I have observed that the most common difference in rates between one-party and four-party residence service is 50 cents a month, although there are occasional cases where this difference is somewhat more and I have seen some instances where the difference is only 25 cents.

I got my first utility rate-making experience in the electric business a good many years ago when the residence use of electricity was almost entirely for lighting purposes. At that time it was not at all unusual to find that the higher bills for residence lighting were as much as four or five times the amount of the bills of the most frugal electric customers.

When I later got into the telephone business, I was somewhat surprised at the small difference between the cost of four-party residence service, which is generally used by our most frugal customers, and the cost of our highest grade one-party residence service, which is generally used by customers with much higher incomes than our four-party customers. This situation leads me to the conclusion that I would like to see differentials of as much as $1.00 a month between one-party and four-party residence service in the smallest exchanges. Such a differential may be too much to expect initially, but I think we should at least get a higher rate for one-party residence service in comparison with four party than is generally in effect at the present time.

As for two-party residence service, I have considerable doubt as to whether it should be offered in the smaller exchanges because of the difficulty of getting an adequate line fill when as many as three types of local residence service are offered in a comparatively small community. Where two-party residence service is offered, however, it is customary for the rate to fall about midway between one party and four-party residence service.

The most common types of local business service are one and two-party lines. In tariffs I have examined, the rate differential between one and two-party business service is usually about the same as differentials between one and four-party residence service, and here again I do not think this differential is as much as it ought to be. It seems to me that the lowest grade of local business service ought to be available at as low a rate as possible, and the business establishment which requires a better grade of service should pay a substantially higher rate.

If a reasonably low rate is maintained for two-party business service, then I think the one-party business rate might well be anywhere from $1.00 to $1.50 over the two-party business rate, and if the customer's business does not warrant paying such a one-party rate, the lower two-party rate then is available to him. When we are told of the damages which occur in the very rare instances where a business telephone is out of service for a few hours, it appears that a business telephone is worth many dollars per day, rather than the few dollars a month which is charged for the service.

So far I have not said anything about the differential between one-party business and one-party residence service. As a general thing, it appears that one-party business service ranges rather widely around twice the rate for one party residence service. I think a very high differential is fully justified, not alone because of the value of the business service but because, for the most part, calls to and from business telephones are largely responsible for peak traffic loads and the plant investment to carry these peak loads.

It is rather difficult to comment upon rates for rural business and rural residence service because of the wide differences in cost of rural construction per customer, depending upon physical conditions, customers per mile, and the length of rural lines. On the whole, however, I think that the rural busi-

(Please turn to page 110)

COLLECTIONS, EMPLOYE TRAINING

By RAY DALTON
Vice President
West Coast Telephone Co.
Everett, Wash.

I HAVE been asked to discuss two related phases of our postwar operating problems. I shall deal first, and quite briefly, with the subject of *collection practices.* Unquestionably, now is the time for a thorough review and analysis of our former collection policies and methods.

We have reached a turning point. Seven years ago our various Independent companies had well established collection policies and techniques. Our cashiers generally adhered to definite rules. They were thoroughly familiar with those methods and routines without which their collections could have fallen badly in a single billing period. Our collection practices were enviously regarded by other businesses whose collection procedures could not be so easily administered. Seven years of a wartime "Sellers Market," seven years of "Easy Money" and seven years of subscribers paying on the "Dotted Line" for fear of losing their services to waiting applicants has, in my opinion, made us somewhat lax in the application of our collection practices. Collections have been good during this period without any particular effort on our part.

In the meantime, many of our old-time cashiers who had acquired the "collection know-how," have left us. They have been replaced with new inexperienced employes. Additional personnel has also been added to keep pace with the ever-increasing number of accounts. In the majority of instances, these new employes have not had adequate training before assuming their duties. They know too little of the companies they represent. They are not familiar with the aims and objectives of those companies and what they are striving to accomplish under almost insurmountable odds. They are untrained in the gentle art of getting the money in on time without antagonizing our customers.

It is to be remembered, too, that, we are gaining subscribers at a very rapid rate. We know very little of their credit ratings and responsibilities. The same is true of the thousands of waiting applicants whose orders now are in our "held order" files. I classify a certain percentage of them as marginal buyers whose services will be ordered out or disconnected for non-payment during the first business recession of any consequence. While there has been an influx of people into certain areas of the United States, still a large number of the applications completed since the war, and those now pending, were and are for people who could have had service in years past but did not avail themselves of it for one reason or another. These will be the first services to be disconnected during a business decline. Be careful of large final accounts which may prove uncollectible.

RAY DALTON

We know that the majority of savings accounts which were accumulated during the war are rapidly diminishing. Installment buying will soon be in full swing again. This will place us in competition with purchases of automobiles, radios, electric appliances, jewelry, furniture, etc., as was the case prior to the war. It is easy to place the telephone bill on the bottom of the pile when there is not enough money to go around.

Collections are already becoming more difficult in some areas. I have no doubt but that some bad collection headaches will develop in exchanges not properly prepared for the coming decline.

It is my suggestion that we carefully analyze our collection practices and problems at each of our exchanges as soon as possible to ensure the existence and proper functioning of the following:

(1) A revised standardized method of dealing with delinquent accounts from the first notice to final disconnection of service.

(2) Classification of subscribers by various credit ratings

(3) Publicity to the extent necessary to acquaint the public, as well as our own employes, with our methods and the reasons for them.

(4) Adequate training of the commercial office personnel responsible for collections, plus a system of published records calculated to promote the competitive spirit and the desire to improve collections.

I shall discuss these subjects in their order:

First, a Standardized Method—It is important that all employes having anything to do with collections be provided specific routines to follow from the day the applicant applies for services to the day his account is closed. May I please repeat, for to me it is most important, that during the war years and subsequent thereto, we have had a succession of employes, most of whom knew or know nothing of our business and who have never been given a fair chance to learn it properly. We have tossed untrained people at their jobs and have let them find out how for themselves, sometimes with very bad effects upon our public relations. We owe it to them and to our selves to properly formulate their duties. Details of collection routines need not be discussed here; naturally, they will vary with the localities, size and type of exchange. The main point to observe is that every approach, oral or written, should be courteous and logical, calculated to make the delinquent subscriber feel that our methods are necessary in the conduct of our business and are not just arbitrary or unfriendly.

Second, the Classification of Our Subscribers — In my opinion, subscribers should be grouped into four classifications. This would not only improve collections but would also avoid unnecessary and wasteful effort on the part of our cashiers. The first classification would include those who have a top credit rating. The second classification would include those who have a good credit rating. Fortunately, the majority of our subscribers would fall into these two classifications: The third classification would be those of unknown credit ratings. They need watching. The fourth classification would be those of known bad credit ratings. Credit should not be extended to this group of subscribers and disconnections should be made promptly for non-payment. Deposits should be required from

This group includes (left to right) LAMAR STOOPS and DONALD STOOPS, both of Nappanee, Ind.; ELVIN DURR, Kansas City, Mo.; J. G. KRAMER, Kansas City, Mo.; TRUDIE FOOTE, Van Cleef Bros.; D. C. GIBSON, L. J. RIZZO and L. M. SPRINGER, all of Leich Sales Corp.

this latter group when experience so indicates.

A card record should be established for each subscriber, showing his proper classification determined on the basis of his past performance, local knowledge and such information as may be obtained from credit bureaus. The determination of subscribers credit ratings should not be left entirely to the local cashier but should be checked and revised from time to time by management.

Third, Publicity and Understanding of Our Collection Methods — In too many of our exchanges our collection methods are regarded as unreasonably "tough," not only by the public but also by our own employes. In some areas the power companies and other utilities are much more easy-going in the matter of collections than we are. We suffer also by unintelligent comparison with retail stores whose profit margins permit them to extend credit over long periods of time. Yet we seldom hear anyone grumble at the necessity of paying insurance premiums in advance and on time.

The sound reasons for our insistence for prompt payment of bills must be known and appreciated. It is a matter of intelligent education, not only of the public, but of our employes as well. It also should be emphasized by planned intelligent advertising.

Fourth, Adequate Training of Commercial Office Personnel. — We must continually train, encourage and supervise the employes who are directly concerned with collections. It is not enough to send them methods bulletins and hope for the best. Our cashiers, like all of the rest of us, have plenty to read these days and bulletins are dry reading. They should be thoroughly indoctrinated with the routines they are expected to follow. Their procedures should be checked periodically, not by an overworked district manager, in the course of a half-hour visit to an exchange, but continuously and progressively by a supervisor thoroughly familiar with the details of their jobs. They should be encouraged by open recognition of their results and by comparison with other cashiers, in company house organs, in published lists of collection percentages, etc.

Those who continually fall behind should be helped to do better or replaced. The spirit of competition should be fostered in every reasonable way as between exchanges. There is one danger, however, in this connection. No two exchanges present the same problems and percentages are not always the true indication of effort. For example, in some exchanges a large proportion of big governmental accounts where ordinary collection efforts do not apply, may nullify the best efforts of a very capable cashier.

I want to stress also that we can be too rigid in the enforcement of our collection policies to the detriment of our public relations. We have all known the painful experience of a cashier, who in adhering strictly to prescribed policies, disconnected the service of some very prominent member of the community for non-payment. "Hell hath no fury," like such an individual whose telephone is disconnected because of a few days' delay in paying for service. Routines and procedures once established must be tempered with good common sense.

This group gathered in the room of the Copperweld Steel Co. to sing some old barber shop numbers.

Finally, the human factor is of the utmost importance in collections work. A cashier who makes 95 per cent collections and a host of enemies is not an asset to the company. Unfailing courtesy and tact must be exercised at all times under all conditions. There are a few cashiers and they are worth their weight in gold, who manage to make friends of every customer and yet keep their collection ratings high. That is not entirely a matter of innate personality; to a great extent it can be taught and developed but it takes intelligent management and enlightened training to do so.

This brings me to the subject of employe education.

We have never had adequate employe instruction in the Independent

Left to right: J. T. WILLIS, Harrisonville, Mo.; W. R. KIMMEL, Kellogg Switchboard & Supply Co.; C. C. PEARCE, Riceville, Ia., and E. W. MILLER, of the Kellogg company.

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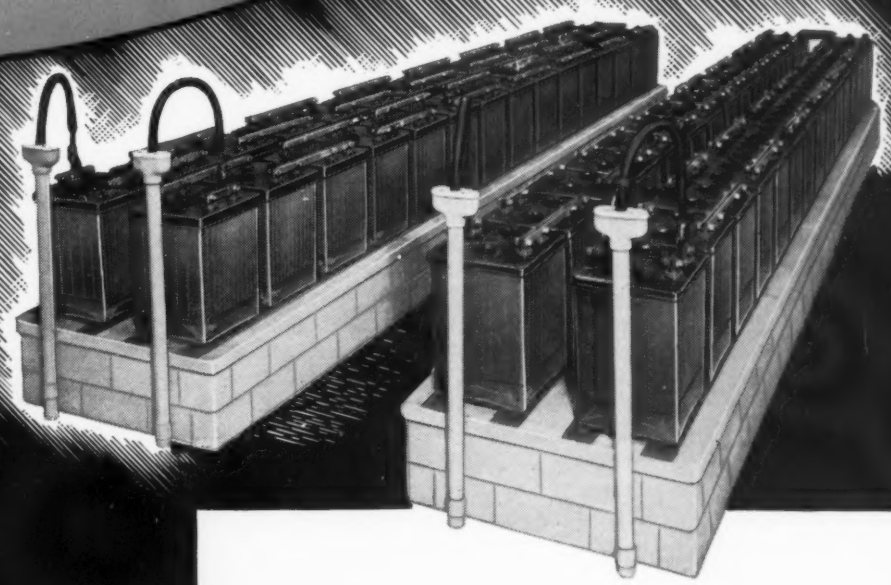
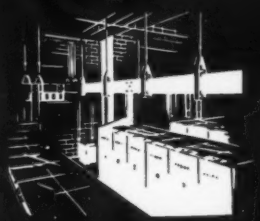
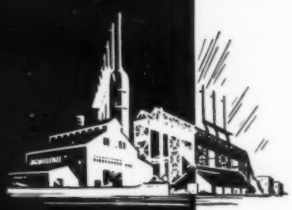
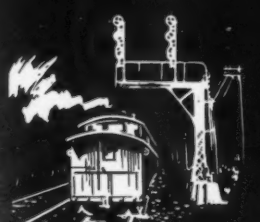




For floating operations in telephone exchanges.



For emergency control and alarm systems.



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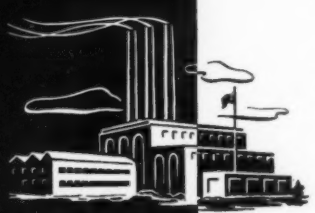

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telephone field. The vast majority of our companies have grown and developed with hardly any attempt at planned training of their personnel.

This is in sharp contrast to the Bell System wherein there has been comprehensive and intelligent instruction for every class of employe from the last employed groundman to the highest executive.

Employe education was perhaps less important in years past when our business was less complex. Today we must deal with new employes, new labor conditions, new plant methods, a great change in subscriber demands and the greatest expansion program the Independent industry has ever known.

During the war years and since, we have paid, and paid heavily, for our lack of systemized training. In a business of extraordinary technical complexity, we have hired a succession of untrained people to supplement a rapidly diminishing group of older experienced employes. Largely, we have left them to learn as best they could with little or no training or expert assistance.

Many employes stayed with us just long enough to leave their jobs somewhat worse than they found them. Consequently, most of our background of long experience which served us in lieu of training programs, has been washed away in the tremendous employe turnover of the past number of years. If you add to that, shorter hours and union-dictated conditions, it is little wonder that we now are required to employ 10 people to do poorly what six formerly did well. We must travel the hard road back to efficiency. With a painfully small nucleus of experienced employes and a host of new employes, too many of whom are well indoctrinated with postwar philosophies that the government owes them comfortable security regardless of their contributions to society, that road back will not be easy. The first step without which everything else will fail, is to train and educate our people. It is an imperative and an urgent "must".

The problem is one of such vital importance that the best brains in our industry should be called upon for its solution. It is no longer a matter for each company to work out for itself alone. We need the strongest committee this association can muster to study this whole problem of employe training in all of its aspects, and to present concrete plans, practical, and fitted to the needs of the 6,000 operating companies.

When such plans are made and adopted, their effective use should be urged upon every Independent company and if necessary, supported and subsidized by the larger Independents. In this business today, we are our brothers' keepers whether we like it or not. The operating efficiency of our small companies is the vital concern of us all.

Our training, like our operations, may be subdivided into plant, traffic and commercial. I propose to offer a few suggestions with regard to each with this reservation that the matter is far too important to leave to an individual or individual companies. It is of the first importance that we treat it as an essential project by and for our entire Independent telephone industry.

Plant—Today, we are faced with a tremendous variety of complex plant changes. Some of them may yet be some years away but many of them are here now. Coaxial cable, multi-channel carrier systems, radio channels to remote areas, power line carriers, teletypewriter networks, toll dialing, automatic toll ticketing and mobile radio installations are not dreams of the far-distant future but realities of the coming months. Rural exchanges, formerly more or less isolated from metropolitan centers, must advance with the science of communications.

We may continue to exist financially as 6,000 separate concerns but physically every telephone in America will soon be a similar unit in one highly coordinated universal system. Any company that tries to "get by" in the next decade with the plant methods of the past, will fail to meet the test by which its fate will be determined.

The implication is inescapable. Every company, however small, will require the services of well-trained specialized technicians. The larger companies may have to share such specialized personnel with smaller companies.

We need centralized training courses for plant men. The essential considerations are these:

(1) The courses should be so priced and the schools so located that they will readily serve:

(a) The requirements of any company wishing to give its plant employes a fundamental knowledge of basic principles and periodical education in specialized developments.

(b) The requirements of any individual telephone employe who wishes to know more about any phase of our business.

(2) The instruction should be practical and directly applicable to the plant man's working functions.

(3) Courses should cover a wide range of subjects from elementary electricity for the beginner to the refinements of teletype, carrier, mobile radio, etc., for the skilled technician.

(4) They should be held and located wherever the best results can be achieved with the least delay. In the more populous areas, such instruction centers could be located and coordinated with the courses offered by technical schools, junior colleges, etc. Elsewhere they might be held at the headquarters of the larger Independent telephone companies.

(5) Personal instruction should be supplemented by correspondence courses and practical lessons written by and for practical telephone men with a minimum of abstract theory and a maximum of what it takes to convert a groundman into a competent lineman and an installer or a switchboardman into a wire chief.

(6) Participation in the Apprenticeship Training Program directed by the United States Department of Labor through the several state labor departments.

Traffic—We have a different situation in the traffic department. We require and shall require most urgently more and more trained plant personnel for the next few years, whereas our traffic force will be diminished but their duties will become more complex.

Dial installations are replacing manually operated plants at a rapid rate. It will not be many years before the majority of local operators will be nonexistent and toll operators proportionately fewer in number as a result of toll dialing, automatic toll ticketing and other short-cuts in traffic operating. The operators' functions will be taken over by mechanical devices which will require the services of additional traffic engineers and plant technicians.

It will be some time before mechanization of the industry will be completed and, therefore, the problem of training new operators will be with us for some time to come. Direct centralized instruction in the form of the present operating practice manuals should be supplemented by training procedures prepared by the local company to meet its own existing traffic requirements.

The most important point for us to realize is that pretraining is necessary. Too many of our companies have never adequately trained their operators. They have placed them at a switchboard after too little preliminary instruction and let them and the public fight it out. A large number of our Independent companies have never set up switchboard training positions or training techniques. They have never used voice recording in the training of operators. Our centralized training program should also include courses for chief operators as well as for the local exchange managers to the end that they may intelligently set up their own local training programs to meet their own requirements.

Commercial—Our commercial staffs necessarily must be greatly augmented. Even in the smallest offices the duties of commercial employes are becoming more varied and more difficult. As we

(Please turn to page 112)

THE NEED FOR ADEQUATE RATES

By VERNE B. CLARK
Member, USITA
Commercial Committee

THE American people under private enterprise have achieved the finest telephone service in the world, but history tells us that the telephone industry now faces its second very serious postwar readjustment within a single generation.

Our Commercial Committee chairman, R. B. Still, and many of the pioneer telephone executives remember that after the first World War had provided a laboratory and proving ground for improvement of motors for ground and aerial transport, there was a great impetus in the development of the automobile and good roads; and that this increase in the speed of transportation resulted in a corresponding demand for more and speedier communication.

It is likewise remembered that commodity prices and wages rose to new high levels during that war and later dipped sharply, but levelled off considerably higher than the level of prices and wages prior to the war. Indeed, economists tell us that inasmuch as the levels of prices after each war in our nation's history have been higher than before, we may now expect that the higher wages and prices which affect telephone operating costs after World War II will level off considerably higher than before that war, but it does not seem exactly clear whether wages and prices will dip as they did temporarily after the first World War.

These historical facts as to demands for more and better telephone service and as to higher telephone operating costs after each war, have brought us face to face in each Independent telephone exchange with the necessity of careful consideration of some very important questions, such as: How much and how soon will we have to improve and extend our telephone plants? How much additional capital will it require? How will we be able to raise that additional capital?

These questions have been and are perplexing ones in almost every telephone exchange today, large or small. (You know the public has never realized that there could be any financial problem in a business like the telephone business that "has no competition." People have watched other folks in competitive lines of business, such as a store or a restaurant or a tavern, where they started out with a little capital and made such a "killing" that before long the place had "blossomed out like a rose," and the owners were soon "swinging their weight around" in expensive cars, swank country clubs, etc.) Little though the public may realize that a regulated monopoly, such as the telephone business, is not allowed to make enough money to finance any considerable expansion out of earnings, the question of proving in large additional postwar investments in the telephone business has been uppermost for some time, and the solution may be of signal importance to a citizenry largely unaware of the problems involved.

V. B. CLARK

President Lumpkin in the last spring conference of our association stressed postwar readjustment of telephone rates and readjustment of telephone plant as two of the major problems of the Independent telephone industry.

It seems to be the general opinion among the leaders in our industry that if we take history as our teacher and just everyday common horse sense as our guide in analyzing today's demands for service, there is little to console those who may still hold a hope that these two major readjustments are not necessary—that we can continue to go along with exactly the same layout of telephone plant and equipment, the same operating methods, or the same telephone rates and income.

We all remember our fears and our conclusions on VJ day that toll business would probably level off, that many "fair weather" subscribers who had been added during the war would drop off our crowded lines, and that many traditionally famous "non-subscribers," who had been knocking loudly at our doors for service, would soon slink away.

Now, after two years, we still see an ever increasing demand for local and long distance service. While, as always before, some telephones will be discontinued in many cases of business failures and financial difficulties, people of all walks of life are now more definitely sold upon the idea of using telephone communication which should be a most effective deterrent against the wholesale desertions from subscriber lists, which we experienced once before.

During the second World War, businessmen learned to use long distance service as they had never used it before. They have not only learned about the economy of using long distance service but they have also learned that communication within a plant or place of business is a most vital instrument of production, so the demand for PBX equipment, extension telephones, wiring plans, and other special facilities and services has increased very materially.

Furthermore, during the second World War, telephone communication had millions of dollars worth of free advertising. This was impressive not only to businessmen but to the public as a whole.

Then too, the use of a telephone became more of a necessity and more of a habit. The army rounded up thousands of potential young non-subscribers, "put shoes on them" and before long had them lined up in front of telephone booths all over the world. Laboring people who, during the depression, could not use a telephone in their work because of being forced to appear at employment offices to be ready for extra work, found that they had to have a telephone in order to be called to work. The children in American homes today have become so telephone-conscious that many of us have sons and daughters who really need private lines if the rest of the family is to have satisfactory service.

It appears therefore, that the telephone business may never get back to normal—if "normal" means having to go out and beg people to have a telephone rather than to use their neighbor's telephone, as we did in depression days, and if it means to try to go along with about the same amount

LEFT PHOTO, left to right: MILTON VAIL, Suttle Equipment Co.; NORWOOD TEAL, Keosauqua, Ia.; D. E. WOLF, Moravia, Ia., and W. C. STREHL, Suttle company. RIGHT PHOTO, left to right: W. T. KING, Lansing, Mich.; J. W. CONLEY, H. E. PETERSEN and E. J. FRENZEL, all of Gould Storage Battery Corp.

of plant, or even the same switchboard and telephones. In many cases in the kind of world in which we were so recently living, it hasn't seemed to make too much difference whether a telephone plant made money or not, so long as little or no money was borrowed and so long as the people of the community were not too dissatisfied with the plant and the service.

Indeed, many telephone rate schedules inherited from prior to either World War I or World War II have been liquidating rates that would have eventually used up the last pole and bit of wire or glass in the plants, even had operating costs remained as they were before World War II. There is, therefore, no use talking about, or even thinking about, going on with the same investment and the same old rates, when the public obviously demands more service and better service and the additional capital investment which must be borrowed in order to provide it.

As has been indicated many times by speakers at state and national association meetings, telephones rates in a large area of the country always have been and are today ridiculously low, compared with the value of the protection and the time-saving and money-saving convenience provided by telephone communication. There are several of these addresses calling attention to low telephone income which should be read again today for the statistics which they contained. Examples which come to the mind at the moment are the following addresses:

"Chickens Come Home to Roost," by J. C. Crowley, in November, 1943.

"Action in Solving the small Company Problem," by A. N. Fancher of the Minnesota Railroad and Warehouse Commission, in January, 1944.

"The Independent Telephone Company in the Middle of the Squeeze," by Senator Arthur E. Nelson, in May, 1944.

It was pointed out by these statistics that in an alarming number of communities, the amount collected for local and long distance service when divided by 24 hours of the day for 720 hours in a month, would not amount to as much as the prescribed minimum wage required to keep one industrial worker on duty on each of three eight hour shifts during the day. It is surprising how many thousands of telephone plants in America today do not collect as much for local and long distance charges and for federal excise tax as would be required to keep a policeman on duty in the community 24 hours a day.

It is not only in the smaller communities that the value of telephone service to the community is so many times its cost to the people, that owners of telephone plants and those who have money to loan should be able to look to the future of the telephone business with confidence. There is such a similar or even greater bargain in what the people of the large cities and of the country as a whole receive for the money they spend for telephone service, that there should be little or no question about being able to secure necessary telephone income to maintain good plants and good service.

I have before me the August, 1947, billing figures of a telephone plant serving a population of 30,000 people. You couldn't build the plant today for 1¼ million dollars and there are approximately 100 telephone people in that community whose daily lives are devoted to furnishing telephone service. There are hundreds of millions of dollars invested in industrial and residential property in that community, and business would be virtually at a standstill without telephone service, and yet, the entire cost of everything billed to the people for 744 hours of telephone service during August (including $4908 in excise tax collected for Uncle Sam) was only $45.61 per hour—less than it would cost to have three shifts of 20 men in fast cars patrolling the streets to carry messages.

Aren't we forced to the conclusion, then, that telephone service is truly the cheapest thing in the world? But, isn't it also problematical as to whether this tradition may be the greatest obstacle in the path of an industry which is expected to accomplish and is accomplishing miracles of expansion and improvement today? As there is more widespread use of communication in the more largely populated areas, it seems logical to believe that there will be more and more demand for good telephone connection with the smaller communities and areas where people have been more indifferent as to quality of service and as to the welfare of their telephone plants—in other words, where they have been indifferent as to whether the rates they paid would improve the telephone system or starve it into oblivion.

We can see growing evidence of widespread anticipation of what is to be expected of the owners of the telephone systems in every community in America, in the day and age upon which we are now entering, and which, whether we like it or not, promises to be quite a different world of competition, with more exacting requirements, and the tempo of everyday life stepped up very materially. Isn't it logical to believe that when much of the present ground transport takes to the air at several times the speed of ground travel, there may be even greater additional demands upon the telephone companies than there was when our subscribers stepped from the wagon or the buggy into the automobile during the period between World War I and World War II?

Our excellent industry publications, have through special research and fearless editorial comments, through solicitation and reproduction of special articles, and through faithful reporting of addresses and other proceedings of state and national association meetings, compiled a priceless store of information to help us carry on the tradition in the Independent telephone industry which has been so typical of the American spirit of individual and private enterprise, and

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EALLY HAS THE STUFF"

Convention visitors at Automatic's exhibit saw new equipment designed for *today's* needs — designed to increase revenues, improve operation, reduce costs. Telephone men showed great interest in —

THE STROWGER DIRECTOR—The "magic brain" that acts as register, translator and sender, permitting automatic network operation under sending-operator control.

THE TYPE 47 VOICE-FREQUENCY REPEATER—An economical solution to transmission problems on toll lines—open wire or cable, loaded or non-loaded, of any length.

AUTOMATIC ELECTRIC FACSIMILE—Offering a new source of revenue through the high-speed transmission of visual matter —printed, drawn or written — by wire or radio.

LENKURT CARRIER EQUIPMENT—The most advanced developments in single and multi-channel systems—including the Type 10 system for toll and rural lines.

Get the facts on these modern communications developments; you'll say, too, that "Automatic really has the stuff!" Write us—or get in touch with your Automatic Electric representative.

AUTOMATIC ELECTRIC

Originators and Developers of the Strowger Step-by-Step "Director" for Register-Sender-Translator Operation . . . Machine Switching Automatic Dial Systems

Makers of Telephone, Signaling and Communication Apparatus . . Electrical Engineers, Designers and Consultants

Distributors in U. S. and Possessions

AUTOMATIC ELECTRIC SALES CORPORATION, 1033 W. Van Buren St., Chicago 7, U. S. A.

Export Distributors: INTERNATIONAL AUTOMATIC ELECTRIC CORPORATION

which was so vigorous in the days after the telephone was invented, that people in thousands of communities in the land who saw the need of a telephone system in order to be able to get in touch with a doctor, did not wait for outsiders or the government to come in to build a telephone plant for them. They raised the necessary capital and formed their own companies within their own communities to embark upon a strange and little known enterprise. They built their own telephone plants, which, in thousands of cases, have been operated and maintained by resident owners to this day.

Some of the other institutions which individual enterprise established in those days are not needed and have not survived, but the telephone exchange is one place of business which must survive, as it will be needed more than ever, and if the same spirit of initiative and self-reliance which provided the telephone plants in the first place continues or is revived, they will be able to solve the problem locally in almost any community in the United States.

This is quite well established by accounts which have appeared in industry publications recently, where individual or local owners have rebuilt and improved their telephone systems, providing the type and quality of service which the people demand and are willing and glad to pay for. It has been proven by many examples that the small exchange which will keep a modern system of accounts such as is required to establish a proper rate base and to satisfy the banks or others who are glad to loan money to a progressive and well-managed telephone company, offers an excellent opportunity for those who will carry on with the same spirit of determination and ability which built the plants in the beginning and which gave us everything else required to make ours the highest standard of living that the world has ever known.

The Commercial Committee was unanimously of the opinion that the files of the industry publications contained so much material, valuable to those who will join in a united front to meet the problem of improving and modernizing plants, service, rates and financial conditions, that it has been suggested to the publishers that they present lists of articles bearing upon the small exchange problems, especially the need for adequate rates.

Each and every issue of our excellent industry publications constitutes a most valuable source of information and education for almost any one engaged in telephone work in either large or small exchanges and the lists, provided in the limited time after the request was made, are by no means inclusive of any considerable amount of the excellent articles that have appeared which would be helpful in solving the problem of securing adequate rates.

This group photographed at the USITA convention are (left to right) S. E. WRIGHT and A. J. KOHN, both of Schauer Machine Co., and A. J. STULTS, TELEPHONY.

These lists which are attached to copies of this paper (published at end of this report) will be helpful in preparation for rate cases. In addition, your committee has been fortunate enough to find and secure limited quantities for distribution of an excellent pamphlet "The Small Telephone Exchange Rate Case" prepared and published by The Independent Telephone Institute, Inc., and a reprint of an article "Rate Making Procedure for Independent Companies" by V. E. Chaney. Also, some illustrations of rate advertising which has been produced under the auspices of a committee of your national association by the Telephone Advertising Institute are available.

History will no doubt record that your state and national telephone associations played a great part in helping the Independent telephone industry present a united front in face of the conditions which seem to require that there be good telephone service sufficient to meet tomorrow's demands in all communities throughout our land. We, of the Illinois Telephone Association, naturally know more about the details of the measures which are being tried out now by our own state association in order to help all companies who need assistance in setting up better accounting systems and in preparing rate cases.

MR. and MRS. JAMES E. COLBERT of the Economy Digger company.

We are pleased to have with us J. G. Hardy, secretary of the Illinois Telephone Association, and George W. Annan, who for 27 years was accounting engineer for the Illinois Commerce Commission, and now a member of the Illinois Telephone Association staff. Mr. Hardy will give an account of some of the experiences that they have had in the several rate cases that have helped prepare for member companies of the Illinois Telephone Association in the Class C and Class D exchanges.

"Rate Increases Needed for Rising Prices," W. A. Ekles, Tel. 2-8-41, P. 27.

"Why Pick on the Little Guy," Fort. T. E. 11-1-46, P. 10, Ed.

"Nebraska Commission Speaks for Small Companies," Tel. 4-1-44, P. 9, Ed.

"Small Telephone Companies Must Have Help Quick," R. C. Reno, Tel. 2-19-44, P. 13.

"The Independent Telephone Company in the Middle of the Squeeze," Senator Arthur E. Nelson, Tel. 5-27-44.

"Chickens Come Home to Roost," J. C. Crowley, Jr., Tel. 11-27-43, P. 13.

"Post-War Outlook for Small Telephone Companies," Alden H. Hart, Tel. 8-7-43, P. 24.

"The Small Exchange—Profits or Losses," R. A. Phillips, T. E. & M. July, 1944.

"Small Exchange Struggle for Survival," Norman Shenk, Tel. 2-17-45, P. 13.

"Where Will the Money Come From?" John H. Agee, Tel. 6-30-45, P. 9.

"Small Companies Can Get Help," Francis X. Welch, Tel. 5-26-45.

"Planning Small Exchange Conversions to Dial," H. M. Stewart, Tel. 2-24-45, P. 13.

"Action in Solving the Small Exchange Problem," A. N. Fancher, of the Minnesota Railroad and Warehouse Commission, Tel. 1-44.

"Rates—Rates—Rates," Fort. T. E. 9-1-47, P. 10, Ed.

"Regulation of Small Telephone Companies," Fort. T. E. 4-1-47, Ed.

"A New Telephone Era," Fort. T. E. 6-47, P. 24, Ed.

"Profit and Loss," T. E. & M., 2-47, P. 23, Ed.

"The Upward Trend of Exchange Rates," Fort. T. E., 2-1-47, P. 11, Ed.

"How High Is Up?" Fort. T. E. 8-1-46, P. 7, Ed.

"Industry Must Move as a Unit in Seeking Rate Increases," Francis X. Welch, Tel. 10-12-46, P. 9.

"Increased Rates—Improved Service," R. C. Reno, Tel. 9-28-46, P. 22.

"Small Companies Foundation of the Enterprise System," Francis X. Welch, Tel. 11-30-46, P. 18.

"Future of the Small Exchange," Burton W. Saunders, Tel. 7-20-46, P. 13.

"Budgeting for the Small Exchange," Carl D. Brorein, T. E. & M., 9-44.

"Rural Telephone Problems," C. D. Hayden, Acting Chief Engineer, Wisconsin Public Service Commission, Fort. T. E. 8-45.

"Telephone Companies Have Held the Line," R. A. Lumpkin, T. E & M 4-47.

"You Can't Stop Progress," T. E. & M. 7-46, Ed.

"Are You a Philanthropist?" Fort. T. E. 6-1-47, P. 11, Ed.

"Is the Telephone Habit Here?" T. E. & M 5-46, Ed.

"Great Light Ahead!" Fort. T. E. 12-1-46, P. 10, Ed.

"Public Service Through Private Enterprise," Tel. 10-19-46, P. 13, Ed.

"On the Outside Looking In," Will M. Maupin, Tel. 8-5-45.

"Small Exchange Conversions," C. C. Pearce, Tel. 10-26-46, P. 61.

"Securing Endorsement for Increased Rates," Mrs. William Saltmarsh, Tel. 3-22-47, P. 18.

"Suggested Procedure for Adjusting Exchange Rates," Norman M. Shenk, Tel. 5-31-41, P. 6; 6-7-41, P. 11.

"Rate Making Procedure for Independent Companies," Verne E. Chaney, T. E & M. 12-1944.

"Essentials for Presentation of a Rate Case," Samuel Bryan, Fort. T. E. 7-1-47.

"Small Company Accounting," H. C. White, Tel. 10-26-46, P. 70.

"It Can Be Done," R. C. Reno, Tel. 5-25-46, P. 18.

"And They Say It Can't Be Done," Henry F. Harding, Tel. 10-19-46, P. 20.

"Acquiring, Improving Switchlines," Kenneth Johnson, Tel. 3-29-47, P. 19.

"Fallacies in Theory of 'Yardstick' for Telephone Rates," Francis X. Welch, Tel. 10-4-41, P. 9.

"What Now?" T. E. & M. 5-47, P. 19, Ed.

NOTE: Tel, indicates TELEPHONY; T. E. & M. Telephone Engineer & Management; Fort. T. E., Fortnightly Telephone Engineer.

Q. How can you dig holes for transmission lines easily in frozen ground?

Q. How can you dig 20″ holes 7′ deep in less than 2 minutes in hard ground?

Q. How can a 2-man crew dig holes and set 45′ poles with the same piece of equipment?

Answer to all three: **USE THE HIGHWAY MODEL HD EARTH BORING MACHINE WITH WINCH AND DERRICK!**

OPERATORS tell us this amazing machine enables them to dig from 60 to 100 holes and set the poles in an average working day. They say they can complete new transmission lines in less than half the usual time, and can restore wrecked lines to revenue service in minimum time. This machine mounts easily in six square feet of platform space on light tractor or 1½ ton truck.

. . .

Other well-known Highway equipment includes line construction and maintenance bodies, pole and cable reel trailers, splicer's trailers, winches and power take-offs. Write us today about your immediate needs.

HIGHWAY TRAILER COMPANY

Manufacturers of: Utility Bodies • Winches • Earth Boring Machines • Pole and Cable Reel Trailers and other Public Utility Equipment.

General Offices: **EDGERTON, WISCONSIN, U. S. A.**

ADVERTISING COMMITTEE REPORT

By C. C. PEARCE
Chairman
USITA Advertising Committee

OUR country has a wonderful history. We are the envy of every nation in the world. A great deal of the thought, beliefs, politics, local and national problems, have been discussed and developed from the meetings which used to center in the village store around the old pot-bellied stove with the cracker barrel on one side.

Here the men of the community met and settled many of the community's problems, planned its future, and in this informal way developed and extended our great democracy.

Today, we are inviting you members of the USITA and friends to sit with us around the imaginary cracker barrel to discuss the problems of today, to reminisce on the past, and to make plans for the future.

Four times during the past year your Advertising Committee has journeyed to this windy city, and each time spent two days going over your advertising problems. Here, word for word, we have discussed your suggestions and criticisms. Like any group or organization which serves hundreds of different companies, it was not always possible for us to give consideration and to use every suggestion, as it was necessary for us to deal with the problems from the angle of being most useful to the largest number of companies served. Sometimes these suggestions were of utmost interest, but due to the enormous cost involved in producing advertising material, it was not always possible for us to use some of these very worthwhile thoughts. On the other hand, we have consistently tried to gear our material to the wants and needs of the many companies we serve.

Looking back to a little over three years ago, when the Telephone Advertising Institute was first instigated, we must give credit to the founders of this worthwhile service. The general plan of providing 52 newspaper mats a year, a poster for the month and a booth card and a counter card a month, along with the Advertising Digest, and miscellaneous items, seems to be the most practical amount of advertising material to furnish the average telephone company. This material is the basis of public relations work for over 1,000 exchanges, and it is the objective of the Advertising Committee to consistently adapt it to the needs of these exchanges.

According to the estimates of the Telephone Advertising Institute, during the past year these companies have used over 24,000 booth and counter cards, placed over 12,000 posters where the public would see them, over 750,000 bill enclosures were mailed and over 50,000 Christmas calendars were distributed. In addition to this, these exchanges have used over a half million column inches of newspaper advertising during the past year.

Formerly, success in business depended more upon a steady adherence to a given plan. Today, it seems to depend more upon one's ability in contemplating the significance of each new season's conditions and adapting plans to fit the almost overnight shift. This is your constant problem and the constant problem of your Advertising Committee in trying to guide the institute in such a way that these problems will be forcefully placed before the public in such a way that they will have an understanding of our business. We think the public should have its needs and interests considered, and I think we should let them know and understand that we are making every effort to consider such needs and interests.

C. C. PEARCE

We know that public relations cannot be accomplished through an erratic advertising program used only at times when the need arises. An advertising program must be consistent seven days in the week and 24 hours a day. Many of us have proof that it is one of the most valuable assets to a public utility. We have found that with a good plant and proper public relations we can accomplish nearly anything we might undertake. While sometimes it may seem like throwing money away when we write a check to the local newspapers, there comes a time when the friendship of the editor cannot be valued in dollars and cents.

Our whole difficulty in this matter of public relations has been, and still is today, that we have not done business openly enough and kept our customers well enough informed. We have been too much immersed in other incidentals of our work. The public has been getting results from our work but it hasn't known enough about how, and under what conditions, these results were accomplished so that they could judge correctly for themselves.

During the war we were constantly striving to inform the public that it was not possible for telephone companies to obtain the needed materials. As materials then gradually become more plentiful, the experienced manpower problem then entered the picture. As telephones were installed to meet the orders, many companies received new orders for service which oftentimes exceeded those installed that particular day or week. As instruments became more plentiful people began to clamor to the telephone company for service, not understanding that it takes more than the telephone instrument itself to render telephone service.

Those of you who have used this service can well remember the variety of materials designed to inform the public of these different problems. You will remember the newspaper mats, booth cards, posters and enclosures designed to inform the public of the difficulty in obtaining materials and to acquaint them with the various problems as they arose. It is hardly possible to measure in dollars and cents the value of this service during those trying times. We believe each company that participated in this advertising program is richer today and is in a better position to cope with the future as a result of this consistent, comprehensive program.

Today, we are faced with an unprecedented demand for telephone service. In a few short years, companies that had an adequate plant are up against the problem of financing this expansion with costs for material and labor nearly double that of any time in the

history of the industry. Thus, we are striving to explain to the public the time that is necessary to expand overcrowded facilities, as there are too few people who understand that oftentimes it is necessary to start at the switchboard in providing facilities to install a telephone for a subscriber that may live five or 10 miles from the office.

In the past, it was possible to absorb increased plant costs and to distribute them over a period of years in such a way that they reflected very little in the rate structure of the operating companies. Now we see a quite different picture. The cost of materials has steadily increased, in fact, on many items it has doubled in the last few years. The public is demanding more and better equipment, such equipment to be kept modern and up to date. This calls for more frequent replacements. There can be only one normal result of these conditions. The cost of plant and equipment becomes so enormous that it must heavily reflect in the rate structure for years to come. This is certainly a problem that must be intelligently handled through a consistent advertising and public relations program. Add to this the fact that an employer hardly knows from day to day what the labor costs are going to be, and you can readily see that there are plenty of problems to de dealt with through the medium of advertising.

We have with us another problem which is directly and indirectly one of the heaviest items of expense today and is perhaps foremost in the minds of not only telephone men but the public and that is that political football called taxes. Taxes take away from operating telephone companies a sum of money in a very short time which is often equal to the entire investment in plant. Even the smaller companies are writing checks to one or another government agency to the extent that at least one dollar of every three that comes into the cash register goes to the government.

May I cite you that the total taxes paid by one small company during the year 1946 amounted to $1.23 per telephone per month. We are still waiting to hear from the men in Washington who were going to help the little fellow.

Here is certainly an item of paramount interest and importance which should be brought to the attention of every subscriber and should be so vividly portrayed that it could not escape the notice of every lawmaker and political group. They must understand and comprehend that a great per cent of money paid to the telephone company is not used by that company but must be passed on to various government agencies. These are just a few of the problems of which every telephone man is conscious today and must be dealt with through the medium of advertising.

This group photographed in TELEPHONY's room includes (left to right): MAJ. A. O. McLANE, Washington, D. C.; H. D. FARGO, H. D. FARGO, JR., VIVIAN RYDEN, A. J. STULTS, all of TELEPHONY, and JIM CODY, Motorola, Inc.

Looking to the future we see many new problems. It is hard to visualize the future and its problems, but one thing we do know, that in order to keep pace with the number of units sold to the public as compared to radios, refrigerators, automobiles, washing machines and every other gadget on the market we must keep pace with modern merchandising and advertising methods. We cannot rest on our oars, because the other fellow keeps on rowing and eventually wins. Any business is an aggressive competitive game, ours no less than any other. The very nature of telephone business has caused us to sit back too long. We must become more aggressive in the future if we are to get our share of the consumer's dollar. We are certain that our telephone job in the future is going to be done in a new and unfamiliar world, thus, less than our best is always foolhardy when going out to meet these unknown conditions.

Here and there we see companies, some of them large and some of them small, that have adequate facilities to provide any citizen with the telephone service that he desires. These companies are requesting some promotional advertising that will help them sell more service. Looking into the future we gradually expect this condition to eventually become more general until the day may arrive when we will need high powered advertising and sales literature which is second to none. Perhaps a plan will need to be worked out that will be equal to the bond drives of the last war.

Your Advertising Committee feels that in order to meet the present problems and those of the future that every telephone company down to the little crossroads switch should carry on a more consistent educational program than ever before. Then, and only then, will the effectiveness be realized.

We can visualize the day when a customer walks into any telephone office or booth, or picks up any newspaper in the country, he will see advertising material that is currently used over the nation for that month. This portion of the program is now available. Looking a little further into the future to the next step we should begin to find this advertising in our state farm papers. This portion perhaps could be sponsored in some way through state associations and perhaps financed through a small assessment per telephone. The next step should be national advertising in some of our more popular family magazines and this portion of the program would be sponsored through the national association.

When all phases of this well-rounded program are finally put into operation, then and only then will we as an industry be doing the job of educating the public to our problems. We, of the Advertising Committee have exerted every effort to solve your advertising problems of the past. If you are not taking advantage of the material offered by the Telephone Advertising Institute or making plans to take part in the advertising program of the future, you as telephone men are not doing your part to bring about a better understanding between your subscriber and you.

The Independent telephone industry has been termed by one of our largest business magazines, "One of the greatest little businesses there is," and we firmly believe that a comprehensive advertising program is the most valuable of assets to this great little business.

The present chairman takes no credit for the success of this advertising program. The accomplishments and success of this program must be attributed to the firm foundation laid by the founders, to the support received from other prominent members of our industry, who at once saw the possibilities of this program.

TRAFFIC—PAST, PRESENT, FUTURE

By W. A. KERN
Chairman
USITA Traffic Committee

THIS is our jubilee year, and I thought it best that our conference follow an optimistic tone throughout the afternoon.

In previous years, we have always talked at length on present day traffic problems. Last year you will recall, our entire program was on this subject. Had this not been a year of jubilation we would have discussed our current problems again this afternoon.

I say this because traffic problems are like the poor — they are always with us. And, in these days of full employment, I dare say our traffic problems outnumber the poor. After all, the reason why we traffic people meet here in Chicago, year after year, is in the hope that we shall be able to take back home with us, some of the answers to our current operating problems. It was the Traffic Committee's idea and purpose in preparing our program for today, to discuss some of the answers to our current problems without the unpleasantness of discussing the problems themselves.

When I first heard some months ago that this was to be our jubilee convention and that I was to conduct this meeting, I began to wonder what problems plagued the traffic people of 50 years ago. I studied old photographs taken of operating rooms around the turn of the century and certainly they gave no evidences of a shortage of operators. Each position was filled with a female in a long black skirt, a stiffly starched shirt-waist and an upswept hairdo. In addition to the girls at the board, the room usually was crowded with supervision seated at special desks behind the operators. Sometimes a well-dressed male, complete with mustache, appeared somewhere in the background. This gentleman, I am reliably informed, could have been an early breed of traffic superintendent but more than likely, he was the local commercial manager. We can only speculate as to the nature of the traffic problems in those early days but we know they were there.

These fine uniform operating practices and techniques which have come down to us through the years, just didn't happen. They were the result of hard work and endless patience on the part of those who came before us. We owe a great deal to those women in their white shirt-waists and the men with the handle-bar mustaches who established the fine traditions that are ours to maintain today.

I promised you a minute ago that this conference would be conducted on an optimistic note. I mean to keep that promise; and if that promise is to be kept, I cannot dwell very long on our present day traffic functions. I will simply pass along by saying that never in our history have traffic people been called upon to render telephone service under more trying conditions. Shortages of equipment and experienced personnel have made our jobs most difficult. However, there is none of our problems that hard work, vision and time will not correct. Your task at the present time is two-fold:

W. A. KERN

(1) See to it that your company has *all* the equipment you need for satisfactory operation on order with the supplier. The best traffic department on earth can't give proper service with inadequate equipment. I am referring chiefly to switchboard equipment, but good service can't be rendered with overloaded toll circuits and rural lines either, so make sure your company is doing all that it can to make your future and the customer's, a brighter one.

(2) Keep the morale of your present operating forces as high as is humanly possible. It is not a pleasant task for an employe to operate on an overloaded switchboard. Recognize this, and bend every effort to make the work as attractive as possible. It has been my observation that an operating force reflects the attitude of the supervisor in charge. If he, or she, hasn't the proper balance and viewpoint, then the office is definitely in trouble. Hold frequent meetings with your supervisors to keep them pepped up. Point out that our future is bright and these shortages which plague us today, will be eased considerably in a relatively short time.

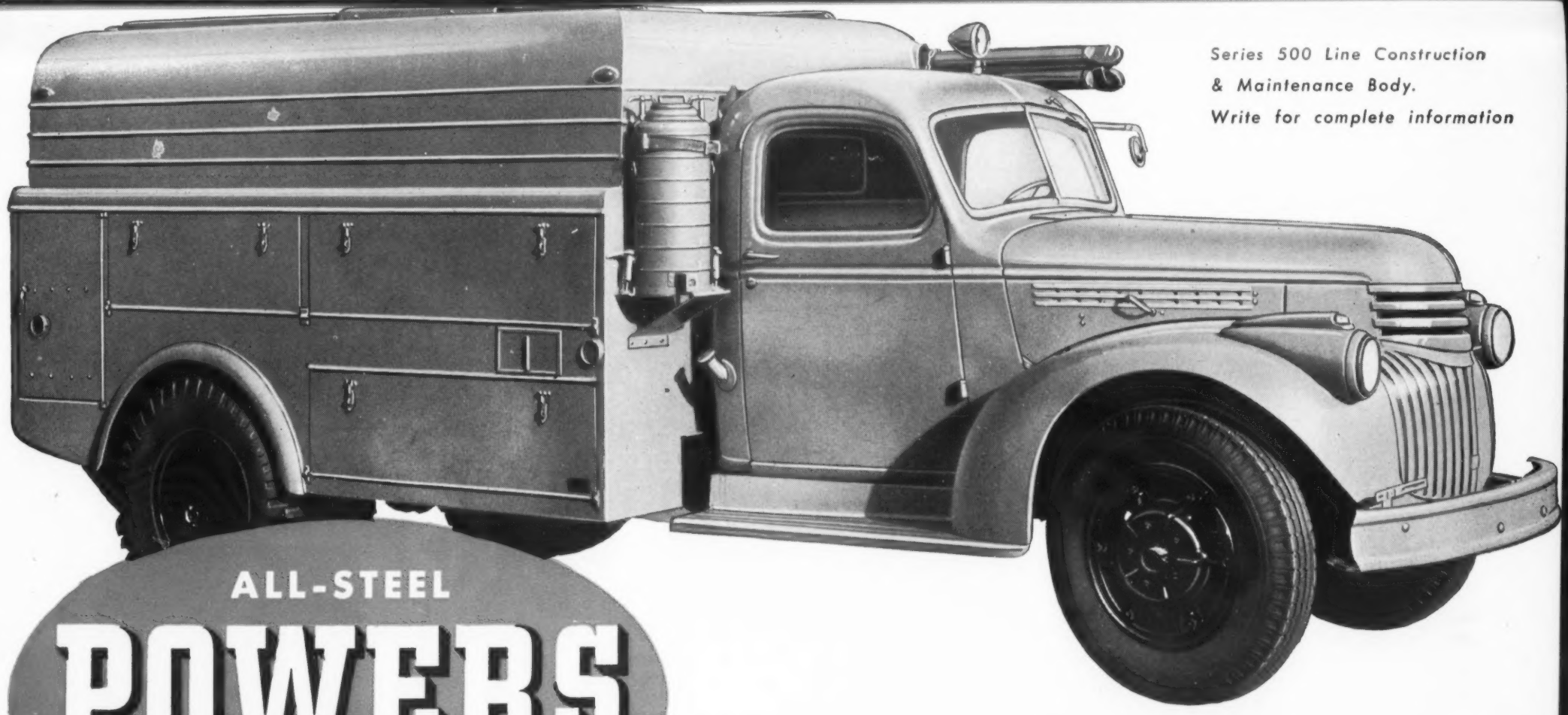
When we traffic people contemplate the future, we really ought to enthuse. I know of no other department in the telephone business that has so much to look forward to. For one thing, we know our employment problems will improve, simply because, I am convinced, they can't get any worse. When jobs are just a bit more difficult to get, our rate of operator turnover will decrease and our forces will acquire the badly needed experience, which is required to perform a satisfactory operating job.

What are the other improvements which will make our lot a better one in the future? The biggest advancement will come through the introduction of "Operator Toll Dialing." . . . We know from previous reports that the operating time in handling long distance calls will be reduced materially. Not only will toll calls be handled quicker but the service will be more accurate, freer from cut-offs and interruptions and the things which plague us today.

The introduction of long and short-haul carrier equipment will provide us with toll circuits in quantities that will cut N.C. conditions to a minimum. The extensive dial conversions will free our operators from the handling of most elementary types of calls and enable us to focus our attention on handling of the new types of calls that are now just beginning to appear. I refer to the whole field of radio-telephony; typified by calls to and from automobiles, trucks, busses, trains, airplanes, steamships and probably rocket ships.

We again will be able to attend to the service refinements which have so largely disappeared from the scene but which, prior to the war, made up the pleasant, friendly aspects of our business. The well-trained voice with the smile; the courteous attitude which made the telephone operator the leader in the field. These are the things that the future will bring back in abundance to us. I am particularly looking forward to the day when proper supervision and training can be given to the employes who were taken into our organizations since 1942. This unfortunate generation has spent its entire adult life in this hectic war-caused

(Please turn to page 115)



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OPERATOR TOLL DIALING

By RALPH I. MABBS
Traffic Facilities Engineer
American Telephone & Telegraph Co.

OPERATOR toll dialing is a very promising development for toll telephone service. Equipment that will do the job costs about the same as other types of dial equipment. Although not available in quantity, it takes about the same time to manufacture and install. And once it is in, its effect on service is immediately noticeable. Those of you that have seen it are no doubt well aware of its greater speed in handling direct circuit calls. You may have noticed, too, that switched calls may be put through almost as quickly as the direct circuit call.

There were, of course, many engineering problems involved in the introduction of operator toll dialing. But most of them have been solved. The program is progressing satisfactorily on an industry-wide basis, and right now more than 5 per cent of the country's toll board traffic is handled by this method. Once the material scarcities are overcome and enough time has elapsed to permit more of this equipment to be installed, telephone customers are going to be greatly pleased with the speed and accuracy with which their calls are handled.

Before discussing the operator toll dialing plan as it is now foreseen, I should like to take a moment or so here to review the steps in handling the more familiar ring-down call. I think it might help provide a good platform on which to make comparisons with the dialing method, and at the same time point up some of the objectives for toll dialing.

Let us take, first, the direct circuit call. After the operator gets the call details, she asks the calling party to hold the line. She then determines the route to the called place. Usually, 85 or 90 per cent of the time, she gets that information from her position bulletin. On the rest, she obtains the route from the route clerk. The customer in either case in holding the line.

Here are the rest of the steps. She selects a circuit and rings. Then when the called office inward operator answers the operator passes the called telephone number, or the name and address. And as you know, if the called telephone number is not known by the calling operator, and the inward operator cannot supply the number from memory or from a bulletin at her position, inward connects her to an information operator.

Now the inward operator secures the called line on a switching trunk, rings the called station, and reports to the calling operator if the called line is busy or does not answer. In the meantime, while the inward operator is ringing the called number, the outward operator is requesting the calling number and completing the ticket details.

If the called station answers and it is a station-to-station call, the operator starts timing the conversation, cuts out, and proceeds with other work. If it is a person-to-person call, of course, she first reaches the desired party and then starts the conversation. When the call is ended, the operator gets a cord signal, she stamps or times her ticket, releases the connection and sends her ticket to the filing position.

That's the direct circuit call.

If the call is to a built-up point the originating operator asks the operator at an intermediate office for a circuit to the called office. This operator then selects a circuit and rings the called office. And in those cases where there is more than one intermediate office, the calling operator reaches each of the intermediate offices in turn and obtains a circuit to the next point.

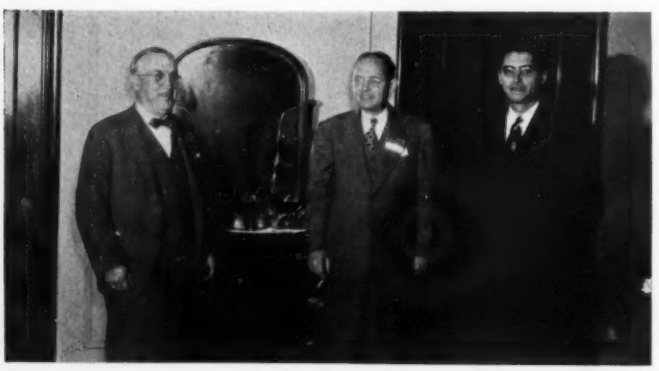
If no circuit condition exists at the originating office, the operator holds the calling party on the line for one minute while she attempts to obtain a free circuit on any authorized route. At the end of that minute, if no circuits can be obtained, the customer is given a report and released. The operator holds his line for 10 minutes, and during that interval, she makes further attempts to secure a circuit. If she cannot obtain a circuit within the 10 minutes, she releases the calling line and sends the ticket to a delayed call position where further circuit attempts are made.

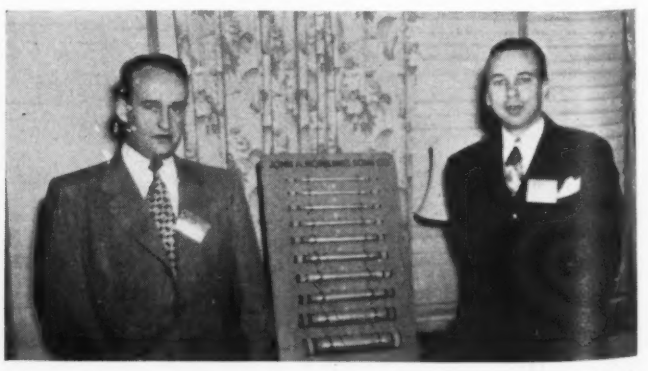
There is one more condition I'd like to mention—no circuit at an intermediate office. Circuits to intermediate offices are usually held for five minutes while the intermediate operator attempts to secure one. If she cannot, she records a call order and the calling circuit is released. The intermediate operator continues in her attempts to secure a circuit to the called office, and when she does, she connects the calling office with the next office.

Ringdown Routing Plan

Before we get into operator toll dialing, there is one other phase of ringdown operation I should like to point up—the routing of calls. To facilitate routing arrangements, toll centers are grouped into two classifications. Those designated as class one are strategically located on main circuit routes. There are about 350 of these. The rest are grouped around these class one offices, and are called class two.

In every class one office there is a simple route sheet which shows the route to every other class one office, and many of these are direct routes between class one toll centers. If you





LEFT PHOTO, left to right: LOUIS PITCHER, Dixon, Ill.; E. F. SCHULZ, and G. W. ORRILL, both of National Carbon Co. RIGHT PHOTO, left to right: D. M. RUMMEL and C. W. PULS, of the John A. Roeblings Sons Co.

wanted to know the route to a most remote locality all you'd have to know is the toll center and the class one office through which it is reached. Both of these you could find in the Rate and Route Guide for every point.

Actually, in the day-to-day job you would need to refer to the guide only rarely—on generally less than 5 per cent of the calls. Routing bulletins, provided at each position, show all direct circuit points and as many of the others as can be usefully included. In addition there is a quick reference file at the route desk which lists additional places.

Percentage-wise here is the way it breaks down. The routing of 82 per cent of long distance calls is direct. Frequently an alternate route is provided through an intermediate office. Calls which go through one intermediate office are about 16 per cent of the total and there is often an alternate route through a different intermediate office. The rest of the calls, less than 2 per cent, require two or more switches. These usually involve far distant or very small places between which there is infrequent calling. The objective is a limit of no more than four switches from toll center to toll center on any one call.

Circuit engineers and control bureaus constantly study the flow of traffic, and in order to maintain a balanced load on available circuit groups, routing arrangements undergo frequent change. Circuits are shifted from group to group. New direct circuit groups are created. And traffic is routed to other groups. To meet changes in traffic distribution between day and evening periods, for holidays, and as a result of out-of-order conditions, circuits are frequently shifted on short notice.

There are three ways in particular that operator toll dialing smooths the way for faster completion of calls: Improvement in the speed with which the operator obtains the routing on a call, cord signal supervision of the called station and the elimination of delays at the intermediate toll centers on switched calls. The first one, improvement in the speed in which routings are obtained, is brought about by the nation-wide numbering plan.

Under operator toll dialing, it is proposed not to increase the number of digits that a customer must dial on a local call merely because of the introduction of toll dialing. Under the plan, an operator will dial seven digits to reach a number in her own state or numbering plan area or 10 digits to reach a number in another state or numbering plan area. A three-digit central office routing code must be established for each central office, for both Bell System and Independent company in the United States and other adjacent countries included in the operator dialing plans.

As you know, local numbers vary by places from three digits in the smaller towns to seven digits in the larger cities. In many places the numbers are mixed four and five digits or mixed five and six digits. In some mixed five and six digit places the numbers consist of all numerical digits while in others they consist of one letter and four or five numerals. Mixed six and seven digit places may have two letters and four or five numerals in the number. Seven digit cities may have three letters and four digits in the local number or two letters and five digits.

All of these situations are appropriate for the places in which they exist, but I believe it is clear that a long distance operator in a distant city might well be uncertain what to dial in many cases unless simple rules are given for her guidance.

Perhaps you can see from this description of the present numbering arrangements that there is a problem of choosing central office routing codes for operator toll dialing which must be superimposed on the present numbering arrangements. That problem will be met in this way: The United States and Canada will be divided into 80 numbering plan areas, and where practical, these areas will include an entire state or province. Each area will include up to approximately 500 central offices, and each office will be assigned a three-digit routing code which does not conflict with any other routing code in its area. Each numbering plan area also will have a three-digit code that does not conflict with any other area code or with any central office routing code.

Thus, each central office in this country and in Canada will be designated by six digits which will distinguish it from every other central office in the two countries. A maximum of 10 digits dialed by the originating operator will reach any central office—three digits for the area code, three digits for the central office code and four digits for the called line number. The exceptions to this are the party line designations and three-digit central office numbers. To change these would, of course, result in considerable expense and annoyance to telephone customers.

Now, let us look at the make-up of the codes themselves. In the Bell System, and in many of the Independent telephone companies "0" (zero) is reserved as a special code by which a customer reaches the operator. "0", therefore, is not available as the first digit of a routing code. The figure "1" is avoided as a first digit of a code because our equipment is arranged so that an initial pulse of "1" is ineffective. These figures, "0" and "1", are not used in central office names and there are no letters on the dials in the "0" and "1" positions. (You may have noticed that in some places the dial number plate has the letter "Z" in the "0" position, but it is not used as part of a central office name.)

Just because we cannot use them to start a central office code, however, does not mean we cannot use them in the numbering plan area codes. With "0" and "1" in the area code, this code is distinguished from all central office routing codes. Area codes with a "0" in the middle will be assigned to numbering plan areas which include all of a state. Codes with "1" in the middle will be assigned to numbering plan areas in states which have more than one numbering plan area.

In the central office, the operator will have a bulletin at her position which shows the numbering plan area codes for all of the single area states and for the larger cities in each numbering plan area of the multi-area states. If she receives a call for a city in a state in which the area code has a "0" in the middle, and the number given by the customer has more than four digits, she knows at once that she may proceed with the call without reference to the routing operator.

When she receives a call for a city listed on her bulletin and the area code for that call has a "1" in the middle, she knows that she may proceed with that call but may not go ahead with any other call to points in that state not listed in her bulletin without reference to the routing operator. On calls for which neither the state nor the city is listed on the bulletin, she must refer to the routing operator.

On each call which must be referred to the routing operator, the service, obviously, is degraded by the additional seconds that must be added to the time required to establish the connection. Any plan that can be followed in the assignment of routing codes that makes it unnecessary to refer to the routing operator will improve the quality of the service.

As mentioned earlier, numbering plan area boundaries will, in general, coincide with state boundaries. In each of the 14 states which have more than 500 central offices, including Independent company offices, there will be anywhere from two to five numbering plan areas. In determining the locations of boundaries between numbering plan areas, a few general rules were followed. Each toll center and all its tributaries are included in the same

area. And as much as possible, boundaries within a state are located so as to avoid cutting across heavy toll routes.

Assigning Routing Codes to Central Offices

At this point, I should like to speak of the plan followed in assigning routing codes to the central offices within a numbering plan area. Please bear in mind, now, that the objective is to establish central office routing codes that will minimize the number of calls on which the operator must refer to a bulletin or to the routing operator to obtain the route. Also, it would be most advantageous, if possible, to assign all central office routing codes so that the operator could tell the routing code from the number given by the customer—the customer gives the number on about 80 per cent of the calls placed.

In the seven-digit cities all central offices have names. In some cities the first two letters of the office name and a numeral form the office designation. In others, the first three letters of the office name form the designation. Central office routing codes are made to conform with the central office designations in these cities.

In six-digit cities, which have office names, the code is made to correspond with the first three letters of the office name.

In cities with five-digit numbers—these central offices did not have names—the first two letters of the city name and the first digit of the telephone number is used as the central office routing code.

Cities with four or less digits will be given three digit numerical codes which will be based on the first two letters of the city name, as far as this is possible without introducing code conflicts within an area. In some states there are many cities whose names begin with a word such as "San," "Saint" or "New." This makes it impossible to follow the city name rule in many cases.

You will note that by applying these rules, the operator can tell on a high percentage of calls what the central office routing code is from the number given by the customer and proceed at once with the handling of the call without reference to bulletin or to the routing operator.

Now let me follow the steps in the handling of a call under the proposed numbering arrangement. The customer reaches long distance in the usual manner, and the operator records his call just as she does today. If he gives a seven-digit called number and the call is to a city within her own numbering plan area, the operator selects a trunk

In this trio are (left to right) J. O. CONWAY, Wilcox Electric Co., and MR. and MRS. R. H. HERRICK, Lorain, Ohio.

connected with the switching equipment and dials the number using two or three letters of the office name as required to make seven digits. If the number he gives has less than seven digits, the operator makes up seven digits as previously described.

When the call is to a city in another numbering plan area, the operator obtains the area code from her position bulletin, or if necessary from the routing operator and dials this code plus the seven-digit number. If the customer does not give the called number, she obtains it from the information operator at the called place and proceeds as described before.

On station-to-station paid calls she does not remain connected to the circuit after dialing the number, but times the conversation from signals which indicate when the called station has answered. On person-to-person calls, she remains in to supervise the start of conversation. When the signals indicate that both calling and called stations have hung up she takes down the connection.

You will recall that a very high percentage of the calls are handled over direct circuit between the calling and called places. In a majority of the toll centers these direct circuits appear in the multiple before the operator. Because of this the operator in many cases need not dial the area code to reach the distant office even though it is in a different numbering plan area. She merely plugs into the direct circuit and dials the called number.

Circuits will be marked in the multiple, or indicated on a bulletin in such a way that the operator may know whether to make up and dial the full seven digits or whether she need dial only the digits given her by the calling party or the information operator.

The proposed numbering arrangement must, of course, make provision for the operator to reach other operators at distant toll centers. She may want to reach an information operator to obtain the telephone number on a call placed by name and address or, may want to ask an assistant operator at a distant point for help in completing a call or in verifying a busy or don't answer condition. Also, the operation may need to reach a delayed call operator when a customer reports he is ready to talk on a call which reached his telephone while he was not available. Distinctive codes will be assigned to these special operators.

Each toll center will have assigned to it a three-digit toll office code similar to the local office codes already described. These codes will not conflict with any other toll or local office codes in the numbering plan area. When the operator wishes to reach an operator at the distant toll office, the toll office code will be used.

Elimination of Code Conflicts

Since the numbering plan arrangements are necessary to successful operation of the plan, the first step in preparation for its introduction is to assign non-conflicting routing codes to each central office. In the transition from the present to the proposed numbering, there will be some code conflicts. Such conflicts, however, will be eliminated in some cases by changing central office names and in others, by using numerical codes not related to the town name. An example of this is the state of Washington numbering plan area where there are three cities which have a central office designated as Main. Two of these must be changed. In the smaller cities without central office names selector levels will sometimes need to be changed to eliminate conflicts between towns whose names start with the same two letters.

In conclusion I should like to note that under the operator toll dialing plan there are numerous equipment and intertoll trunk layout arrangements which serve to achieve the service improvements.

To mention a few—

All of the important switching points will be equipped with sender and marker control facilities which will complete intermediate switches in a second or two. Automatic alternate routing will be provided at the switching centers. This will be of such nature that calls encountering all circuits busy over the first route will automatically and immediately be offered to other routes so that in the end only a few of them will be delayed due to there being no idle circuit. Terminating equipment will select and ring the called number and through supervision features will indicate to the originating operator when the called station answers or whether it is busy.

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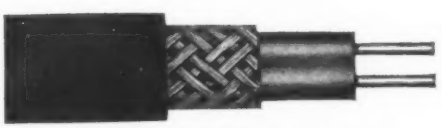

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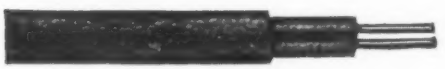

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SELECTION OF EMPLOYES

By L. E. ARMFIELD
Personnel Director
East Central Group
General Telephone System

MR. KERN, who selected the title of this discussion, "Scientific Selection of New Employes—Fact or Fiction?", certainly raised a question which is most thought provoking, particularly to those of us in the telephone industry. The telephone industry requires a host of diversified training, talents, skills and abilities in its personnel because of the complex nature of the business.

The gamut of vocational opportunities offered by the industry ranges from the unskilled workman to the highly trained specialist such as the skilled craftsman, engineer, legal expert, accountant and management executive. Consequently, the proper selection of applicants and matching the applicant with the job, present and potential, becomes very important in the continued success of the industry's ability to render the highest type of telephone service to the public and provide a fair return to the investor.

This discussion, therefore, is presented with the hope that it may be of some assistance to those who are delegated with the responsibility of obtaining competent personnel for perpetuating this great industry. Before Mr. Kern's question, is scientific selection of employes fact or fiction, can be answered, it is necessary at the outset to remember that the problem posed by the question is not one which lends itself to mathematical solution nor exact measurement usually accompanying scientific experimentation because of complicated human variables.

Due to the controversial nature of the subject, it is extremely important that the problem be considered with available tools and techniques offered by modern science. It will be necessary, therefore, to consider two very important terms which have contributed immeasurably to scientific progress in all fields of endeavor during the last 150 years. The first term, "scientific method," is usually defined as a way of arriving at truth and which involves the following steps:

(1) Formation of a desire to find out (scientific curiosity).
(2) Collection of facts concerned through observation of nature or by means of planned experiments.
(3) Finding of some rule, or law, which is true for all cases observed.
(4) Making of an hypothesis (scientific guess) which seems to explain the law.
(5) Use of the hypothesis in planning new observations and new experiments for testing further the truth of the hypothesis; this step involves predictions and search for verification.
(6) Use of the fruit of experience and knowledge thus obtained, out of which invariably arises new curiosities, and the process of truth-finding starts anew.

The second term, "scientific attitude" has not been as clearly defined, however, its basic characteristic is objectivity, that is, *the willingness to let evidence determine judgment.* It might be supposed that persons endowed with reason would do this as a matter of course. Observation of history, even the history of science, and of general human thinking, however, clearly shows, that people are very prone to permit many things very different from evidence sway their judgment. Prejudice, personal preference and thousands of forms of self-interest often take the place of judgment based on facts and evidence of truths. Modern science, therefore, makes every effort to maintain objectivity in its pursuit of the truth and to depend on reproducible observations and measurements.

The scientific method is relatively easy to follow in most fields of endeavor as it is usually possible to employ precise mathematical formulae and to obtain exact measurements. In the field of human relations, however, it is more difficult to follow strictly scientific methods as in each problem one is confronted with complicated human variables which elude exact mathematical computation and measurement and consequently, many of the results must be left to judgment and compromise. The scientific attitude of objectivity, however, can be obtained, providing extreme care is exercised in setting up the scales of measurement, and, further to offset the prejudices and variations of individual judgment, it is necessary also to poll the judgment of several individuals.

From the above discussion it is observable that scientific selection of new employes does not need to be fiction, but rather may become fact through the development of scientific methods and the constant maintenance of a scientific attitude in the application of the tools provided by modern industrial psychological research.

Many tools, in the form of various types of measuring instruments (tests), have been developed by industrial psychologists which are designed to assist the employer in selecting and placing applicants. As each testing instrument is usually concerned with one small area of the problem such as, intelligence, mathematical ability, temperament, concentration, finger dexterity, etc., it is difficult and often confusing to select the type of test or tests which will provide the information needed to determine the qualifications required for specific job classifications.

Tests are largely developed individually by numerous organizations working independently and often are expressed in general terms which may not be applicable to certain job classifications. To coordinate the tests and the job classifications, therefore, it is desirable, through research, to utilize the instruments of measurement which are most practicably applicable to specific job classifications. When a combination of tests have been found which provide the interviewer with a means of screening the applicants to fit the job classifications, then the errors of personal judgment are minimized and one can be reasonably certain that the applicant will be utilized to the mutual advantage of the applicant and the employe.

As an illustration of the application of the "scientific method" and "scientific attitude" defined previously, it might be worthwhile to discuss the research conducted during the last three years by the personnel department of the group of operating companies with which the speaker is associated.

The first step of the "scientific method," the desire to find out, was easily satisfied as the desire was the motive for the research. The second step, "collection of facts concerned through observation," combined with the "scientific attitude," i.e., the willingness to let evidence determine judgment, was applied in two ways, namely, (1) conducting various types of tests for specific job classifications to determine which tests would reveal the qualifications required for the specific job classifications and reduce to a minimum the prejudices of personal judgment, and (2) make reasonably certain that the study of an applicant's qualifications as revealed by the measuring instruments, by other examiners, would result in similar interpretations.

After rather lengthy research, it

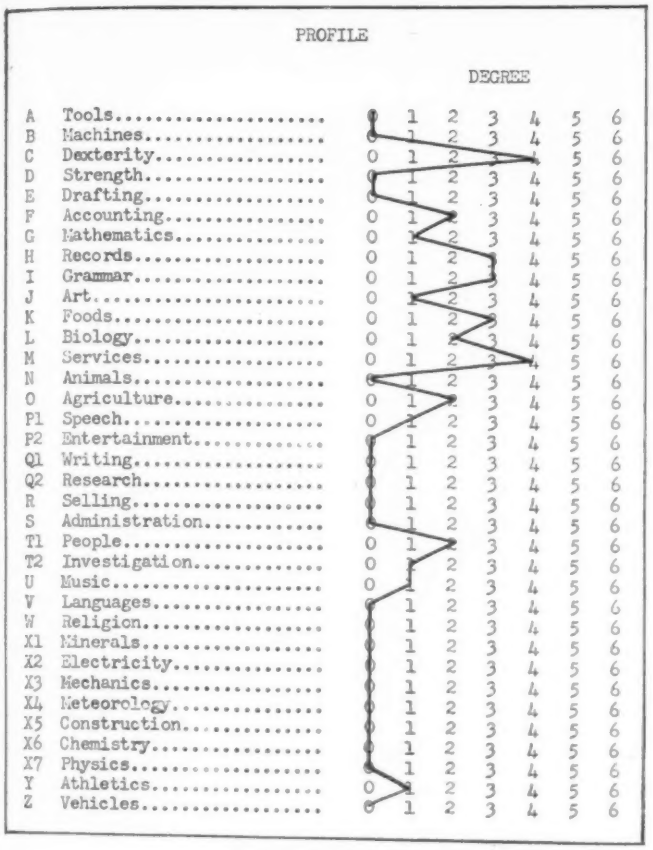

Fig. 1. Operators.

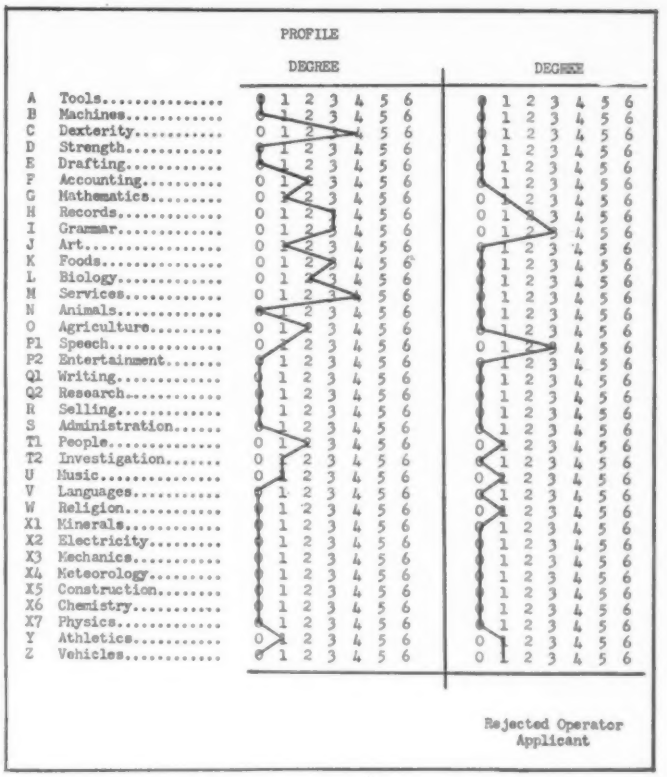

Fig. 2. Operators.

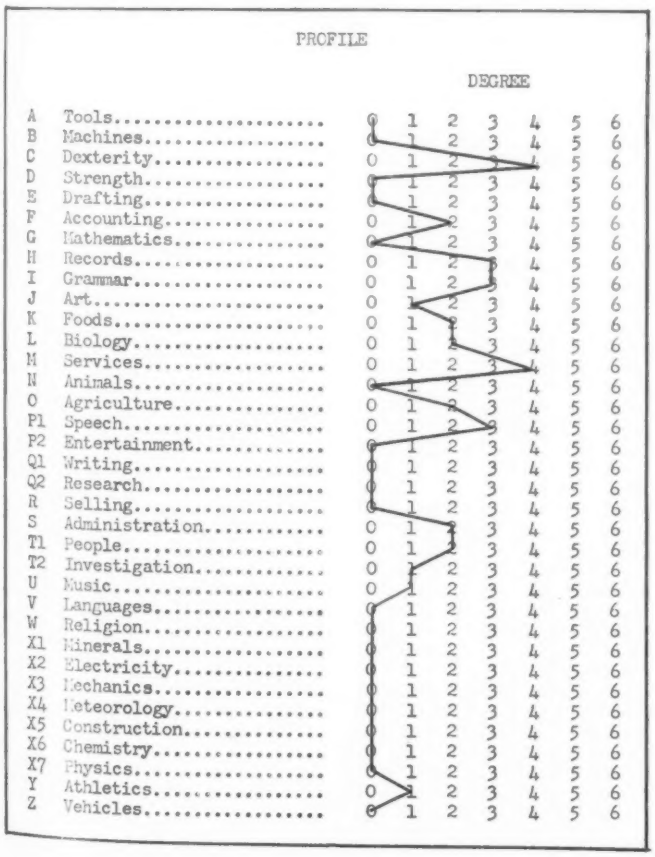

Fig. 3. Traffic supervisors.

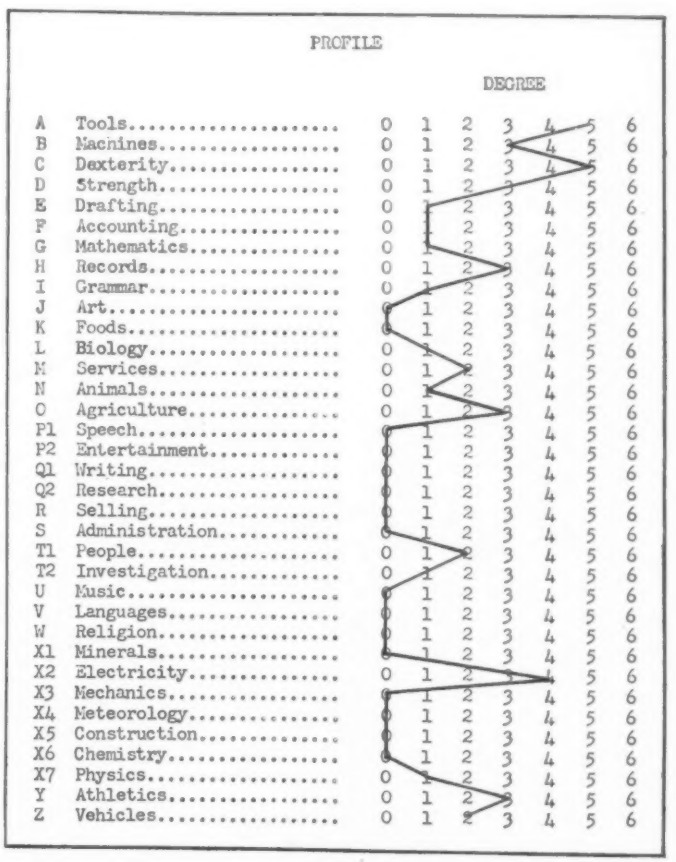

Fig. 4. Cable splicers.

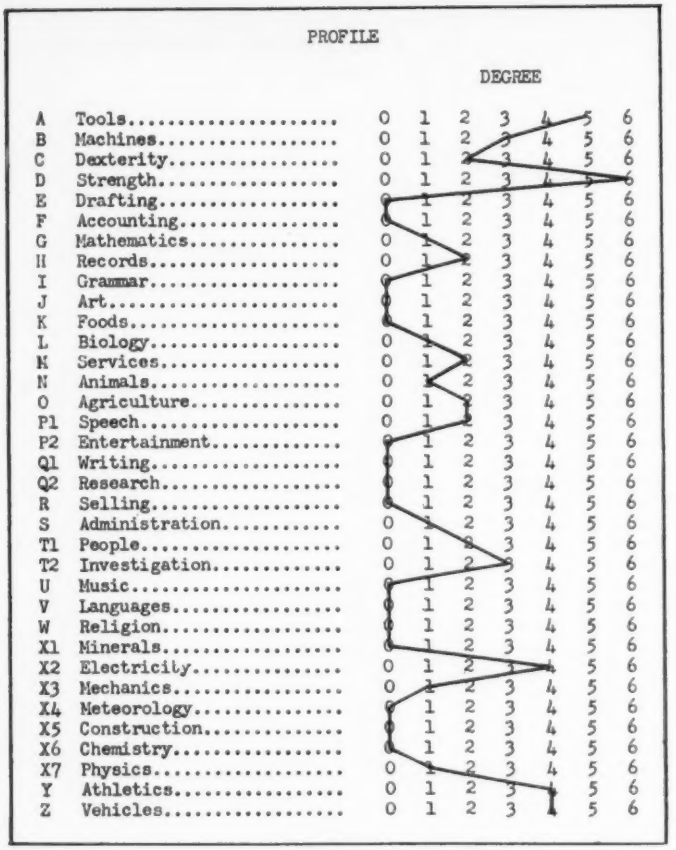

Fig. 5. Lineman

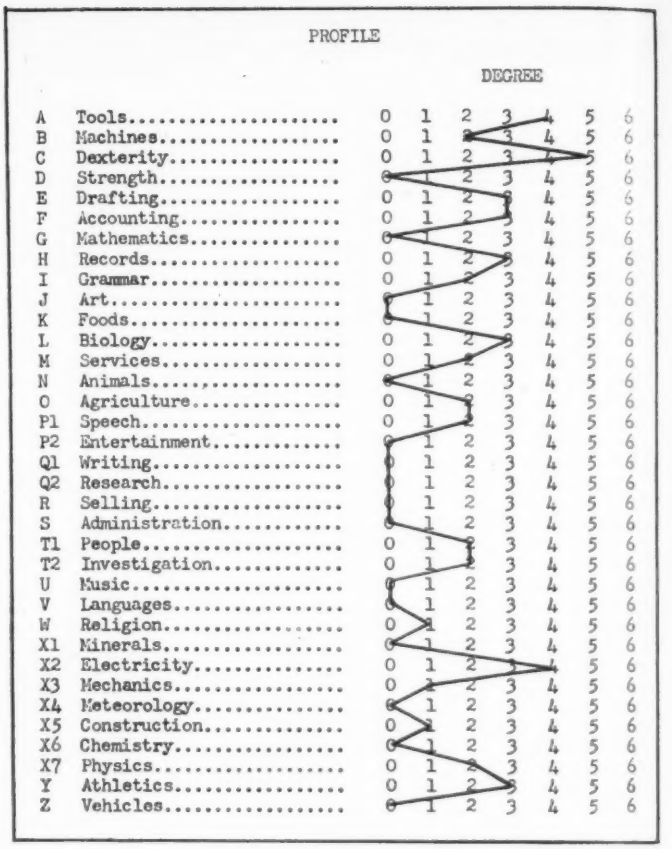

Fig. 6. Switchmen.

was found that various combinations of measuring devices would partially satisfy the requirements aforementioned. Among the many devices available however, a combination of three measuring instruments appeared to satisfy more adequately the many requirements of most of the job classifications under consideration. The three measuring instruments finally selected for research included:

(1) A personnel test, i.e., an intelligence and general aptitude test. Designed by E. F. Wonderlic.
(2) The adjustment inventory, i.e., personality characteristics including home, health, social, emotional and occupational adjustments. Designed by Hugh M. Bell and published by the Stanford University Press.
(3) The job qualification inventory, i.e., verified interest, ambition, training, experience and evidence of worthwhile accomplishment. Designed by Keith Van Allyn, executive director of the Bureau of Personnel Research.

The aforementioned battery of measuring provided the tools for further research in determining standard qualifications for specific job classifications and led to the application of the third step of the "scientific method" previously defined as "Finding of some rule, or law, which is true for all cases observed."

It was recognized that this step could not be satisfied strictly in the scientific sense but rather could be approached only approximately because of the many human variables which elude exact measurement. From a statistical point of view, however, many frequencies do reveal trends, arithmetic means, modes, etc., and, therefore, provide tools which would help considerably to minimize errors of personal judgment. In proceeding with the study it was reasoned that the determination of the attributes and abilities which characterized the successful employe could best be obtained directly from those employes who were trained and experienced in a particular job assignment.

Accordingly, through the cooperation of the employes, the unions representing them, and the management, several hundred operators in Michigan and Kentucky, who, in the opinion of their respective chief operators, were considered successful, were selected as the subjects of the research. The three measuring devices mentioned above were completed by the operators under the supervision of selected personnel and returned to the personnel department for processing and compilation.

The results derived indicated that certain definite abilities, attributes and characteristics were common to all the operators who participated. Ninety per cent of the answers to the questions in the personnel tests and 85 per cent of the answers to the adjustment inventory were found to be identical. The job qualification inventory provided a composite profile for operators which is shown on *Fig. 1.*

From the results obtained, it was possible to establish pattern scores for the personnel test and adjustment inventory in addition to the composite profile derived from the job qualification inventory. Thus the fourth step of the "scientific method," namely, "making of an hypothesis (scientific guess) which seems to explain the law," was applied realizing, however, that the hypothesis made was statistical rather than mathematical as is usually customary in scientific investigation.

The fifth step of the "scientific method" which provides that "the hypothesis should be used in planning new observations and new experiments for testing further the truth of the hypothesis," was exercised by inaugurating a program to test experimentally the pattern scores and composite profile in actual practice. Accordingly, a routine was established for two of the larger exchanges in our territory, namely Lexington, Ky., and Muskegon, Mich., whereby all applicants for operators positions are required to complete the three measuring instruments mentioned above.

After scoring, the results are compared with the pattern scores and composite profile and if they do not compare favorably with the patterns, the applicant after an interview, is either

(Please turn to page 115)

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INDOCTRINATING NEW EMPLOYES

By R. O. BECK
Director, Industrial Relations
Mutual Telephone Co.
Honolulu, Hawaii

SUPERVISORS within the telephone industry occasionally overlook the fact that they are working in one of the most highly technical of all industries. We have complicated equipment which is strange to the newcomer in our field, yet to us is commonplace and very familiar; traffic loads that are heavy in their demands for immediate, efficient and courteous service; an organization in which few people completely understand the details of each phase of the work, yet must somehow be so coordinated that all departments and all work groups are trying in their work toward the same objective. Job classifications are strange and new as compared to the average industry. Even our terms and expressions are peculiar only to our field, particualrly in traffic work. Add to all this the fact that the new employe is, for the most part, among strangers.

If the average girl chooses a career in merchandising, general clerical or stenographic work, she undoubtedly, on a number of occasions, has had an opportunity to visit an office, or certainly has seen some phase of department store work, so that upon assuming her new job she very definitely has had some preconceived ideas of what to expect insofar as the physical surroundings are concerned. Not so, however, with the neophyte switchboard operator. Have you ever given serious thought to the fact that the average new operator has never seen an exchange except from the street or, more important, may never have seen a switchboard? Is it any wonder, then, that one of the reasons we experience such a relatively high turnover among our operators is due to the fact we do not properly introduce ourselves and our operations.

The first day a new employe is received on the job creates lasting impressions on that individual's mind. If properly introduced and oriented amongst strange surroundings, undoubtedly the newcomer's opinion of the organization is high and it will probably be a lasting impression. On the other hand, if little or nothing is done to acquaint the new employe with the organization he or she is joining, a poor impression is usually made and a question is formed as to whether or not the employe made the correct decision in accepting work with the telephone company. Think back to your first day on your first job. Was not your opinion of the company altered in some manner or other by your reception?

It seems to me that the first line supervisor is the key figure in properly indoctrinating the new employe. That supervisor will be working with the new employe daily and, as such, should attempt to become well acquainted with the newcomer. It is not always an easy job for the supervisor to become well acquainted, inasmuch as one of the basic foundations of human relations is the factor that all people are different and, as such, must all be treated as individuals. It is suggested that management give serious consideration to training programs designed to help supervisors handle people properly and thus promote the best possible human relations within the organization.

There is a phase of this indoctrination that can be handled by parties other than the first line supervisor, if management thinks that such would be desirable. The instructor could play an important role in this phase as could any formal personnel department within the organization. Should this part be administered by individuals other than the first line supervisor, it is very desirable for the supervisor to touch upon parts of it, not only as an attempt to follow through, but also to show the new employe the supervisor's cognizance of this part of the program.

First, if your employe relations' policies are sound, why hesitate to put them in writing? Reduce them to simple easy-to-understand language and have them printed in an attractive brochure or booklet. Of course, it would be nice at the same time to include a short resume of the history of your organization. Rather than merely presenting this booklet to your new personnel, it is strongly suggested that an individual, well versed in its contents, discuss and explain the policies to the new employe.

Second, a personally conducted tour of the main office, or if that is not possible, at least a tour of the office or physical property where the employe will be stationed. How many of your linemen have ever seen very much of an operating room? How many operators have been through the revenue accounting office or the supply warehouse?

Third, as most telephone companies offer employes a discount for station service, why not introduce the new employe to a service representative in the commercial department and arrange any such billing change on the first day of work. Remember, employes can be good subscribers also.

Fourth, explain the workings of the payroll department, for let us not be altruistic. The newcomer is just as interested as to the time he can normally expect his pay check as you and I. Most payroll enclosures are somewhat complicated with symbols for straight time, overtime, tax deductions, etc. An explanation of this will make it easy to recapitulate the next pay check.

Fifth, as most companies now require a pre-employment physical examination, it would seem appropriate at this time to present a copy of that examination to the new employe, along with a brief discussion of the personal health factors which should be watched on the job.

Sixth, it goes without saying that such routine matters as Social Security should be clarified at this point. Of course, there should also be no question in the newcomer's mind as to the starting salary, method of wage progression, and promotion policies.

The next phase of this indoctrination process can be handled in any of a number of ways. Certainly an awareness should be made in the employe's mind that there is a plan for retirement. It is suggested that no intricate explanation of any retirement plan be made during the first few days on the new job. A fine system would be to conduct a follow through counseling interview at the end of six months' employment, during which time the interviewer would (1) determine how successful the initial placement was and how well adjusted the new employe had become; (2) an explanation in considerable detail of any retirement features the company had to offer.

Thus far, I have only attempted to sketch to you an indoctrination plan that could be utilized by any telephone company at low cost, yet at the same time may be very effective. In the final result, personnel work can only be dictated and formulated on business policy that can be proved out on a cost basis. Some times the value of good employee relation policies is intangible and cannot be definitely proved; that

is what makes personnel for industrial relation work difficult at times.

We, in our company, found that what I have thus far described was incomplete to do the job for us. We felt that a more adequate explanation of the communication business was highly desirable, as well as an attempt to personalize our two top operating executives. With these two objectives in view, we produced a 16 mm. color sound track movie entitled, "Beyond the Dial." It is a brief description of some of the more important aspects of our company designed to give the new employe a better understanding of our over-all work force without attempting to explain in detail any one phase of it.

The movie is approximately 800 ft. in length, taking 20 minutes for a showing. The picture is shown once every two weeks at our principal location of operations to all personnel who were employed subsequent to the previous showing. Following the picture, a staff member of the industrial relations department introduces the president and general manager of our company to the group of new employes. He, and, in turn, the vice president and assistant manager, briefly welcome the newcomers and attempt to impress upon them the combination of a telephone career devoted to good, courteous service to the public. An explanation is given of the functions of the industrial relations department, and the new employes are introduced to each other.

By itself, "Behind the Dial" does not do a complete job of indoctrination. We believe that our indoctrination program has not only proved itself out in cost, by reducing turnover, but also has created a better and broader understanding of our operations among our employes.

It takes time, money and effort to train new personnel. Turnover is costly. Each time an employe is severed from the payroll, the organization is very directly out-of-pocket a considerable sum of money. You protect your investment in buildings and plant equipment—why not give some thought to one program that will protect your investment in the human element? Provided it is based on sound business policy, I am certain that you will find such time, money and effort to be a sound investment, as well as one more device that will build and create a happier work force.

IMPLICATIONS OF "ORIGINAL COST"

By F. M. BEATTY
Partner
Arthur Andersen & Co.

THANK you for inviting me to your Golden Jubilee convention. The growth of your industry and its contributions to the welfare of both America and the world are accomplishments of which you may all be proud. It is a pleasure to see a number of old friends and to have the opportunity of discussing briefly with you some of the "Implications of Original Cost."

Mr. Dunlap tells me that I do not need to discuss the problems involved in determining original cost, nor those incident to the keeping of unit property records since such subjects have been discussed in the past. Just let me say a word about unit property records. I'm sure you will all agree that the classification of large unsegregated amounts of "Property Purchased" accounts into classified property and units with the resultant disposition of amounts not representing cost of property has resulted in more useful and informative financial statements. Such controls permit of periodic inventorying of such property, more satisfactory control over retirements, furnish necessary data with respect to insurance, taxes, etc., and in my opinion, such records are required by the best accounting practice.

As I see it, this leaves me two questions to discuss, namely:

(1) How does original cost accounting affect financial statements?

(2) What is the effect of the original cost principle in the regulation of rates?

Let me say at the outset that I believe we are still in a transition period and it is entirely possible that the final answers to these questions have not yet been found.

Before discussing the questions I would like first to review briefly the relatively short history of utility regulation, the development of "original cost" and some of the arguments that have been advanced for and against.

Although some regulatory commissions had been established before 1900, regulation by commission is principally a 20th century phenomenon.

One could say that from 1898 to the middle twenties the fair value theory was the concept upon which rate-making decisions turned. In 1898, the U. S.. Supreme Court handed down the oft-quoted Smyth *v.* Ames devision wherein the court said that consideration had to be given to three important factors in setting rates for a public utility. These considerations were—

(1) Original cost of property used and useful.

(2) Reproduction cost new at the date of the proceeding.

(3) Amount of capitalization of the public utility.

Mr. Justice Harlan, delivering the opinion of the court, as relates to those factors, said:

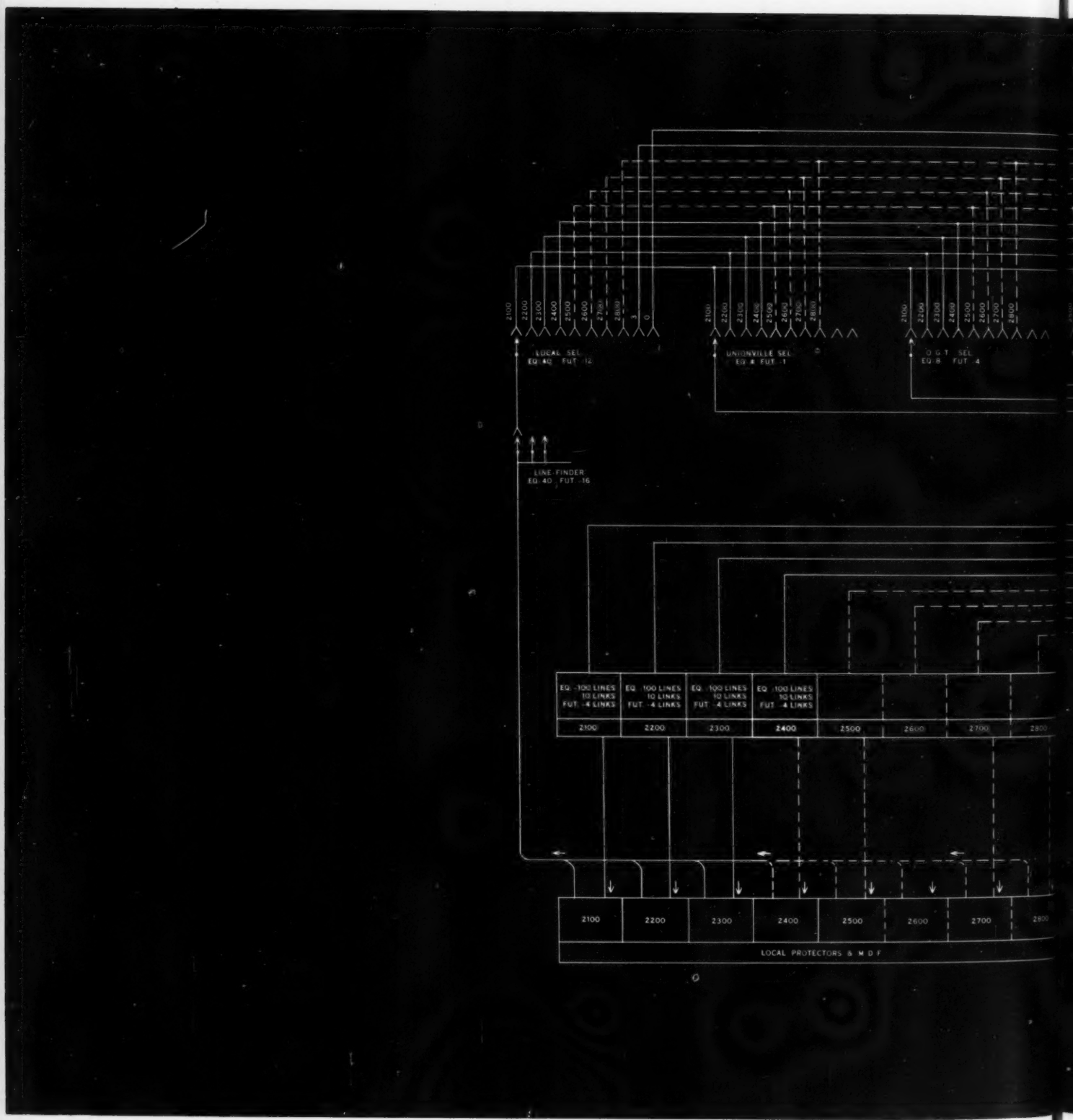
"We hold, however, that the basis of all calculations as to the reasonableness of rates to be charged by a corporation maintaining a highway under legislative sanction must be the fair value of the property being used by it for the convenience of the public. And in order to ascertain that value, the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earnings capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property. What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth."

It is understood, of course, that the court was concerned with the protection of property rights guaranteed under the Fifth and Fourteenth Amendments to the Constitution, commonly referred to as the due process amendments.

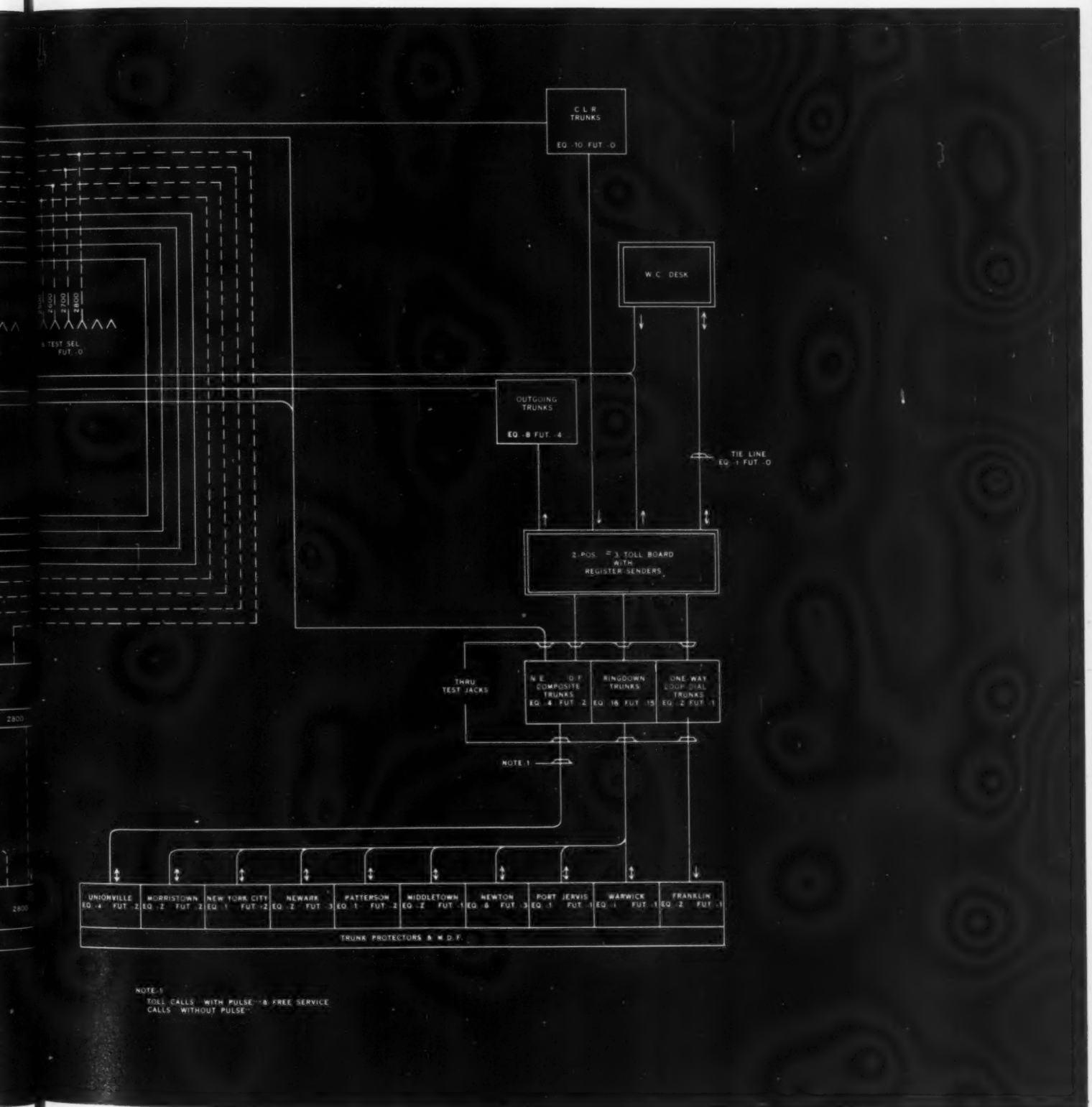
In succeeding years, emphasis settled upon factor number two above pertaining to reproduction costs new at the date of the proceeding. The following excerpts from decisions of the Supreme Court clearly define the "fair value" doctrine:

Wilcox v. Consolidated Gas Co., 212 U. S. 19 (1909): There must be a fair return upon the reasonable value of the property at the time it is being used for the public—and we concur with the court below in holding that the value of the property is to be determined as of the time when the inquiry is made regarding the rates. If the property, which legally enters

LOCAL AND TOLL DIALING NETWORK



TRUNKING DIAGRAM
for
SUSSEX, NEW JERSEY


C.L.R. TRUNKS
EQ. -10 FUT. -0
W.C. DESK
OUTGOING TRUNKS
EQ. -8 FUT. -4
TIE LINE
EQ. -1 FUT. -0
2-POS. "3" TOLL BOARD WITH REGISTER SENDERS
THRU TEST JACKS
N.E. D.F. COMPOSITE TRUNKS
EQ. -4 FUT. -2
RINGDOWN TRUNKS
EQ. -16 FUT. -15
ONE-WAY LOOP DIAL TRUNKS
EQ. -2 FUT. -1
NOTE-1
UNIONVILLE EQ. -4 FUT. -2
MORRISTOWN EQ. -2 FUT. -2
NEW YORK CITY EQ. -1 FUT. -2
NEWARK EQ. -2 FUT. -3
PATTERSON EQ. -1 FUT. -2
MIDDLETOWN EQ. -2 FUT. -1
NEWTON EQ. -6 FUT. -3
PORT JERVIS EQ. -1 FUT. -1
WARWICK EQ. -1 FUT. -1
FRANKLIN EQ. -2 FUT. -1
TRUNK PROTECTORS & M.D.F.
NOTE-1
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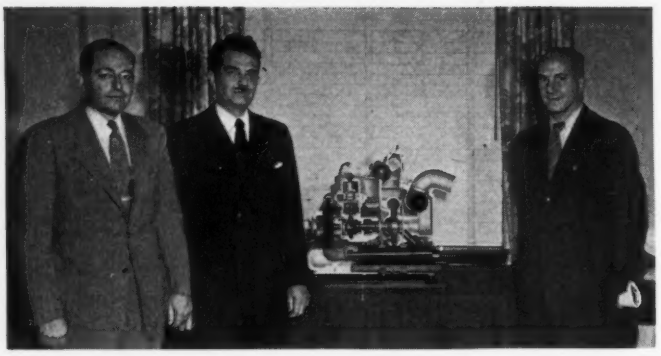
Galion, Ohio



LEFT PHOTO, left to right: N. E. THOMPSON and T. W. GRAMM, both of Homelite Corp., and R. A. CLARK, JR., Communication Equipment and Engineering Co. RIGHT PHOTO: Relaxing after one of the sessions of the USITA convention are (left to right) A. E. GUSTAFSON, C. N. Christiansen Co.; WALTER DAKIN, Madison, Wis., and R. A. PHILLIPS, Lincoln, Neb.

into the consideration of the question of rates, has increased in value since it was acquired, the company is entitled to the benefit of such increase.

Minnesota Rate Case, 230 U. S. 352, 33 Sup. Ct. Rep. 729 (1913): The making of a just return for the use of the property involves the recognition of its fair value if it be more than its cost. The property is held in private ownership and it is that cost of it, of which the owner may not be deprived without due process of law.

Missouri ex rel. Southwestern Bell Telephone Co. v. Missouri Commission, 262 U. S. 276, PUB 1923 C 193: It is impossible to ascertain what will amount to a fair return upon properties devoted to public service without giving consideration to the cost of labor, supplies, etc., at the time the investigation is made. An honest and intelligent forecast of probable future values made upon a view of all the relevant circumstances is essential. If the highly important element of present costs is wholly disregarded such a forecast becomes impossible. Estimates for tomorrow cannot ignore prices of today.

Notwithstanding the many court decisions supporting the use of a reproduction cost to measure "fair value," the philosophy became the subject of many attacks including, during one period, the minority of the Supreme Court led by Justice Brandeis. That this should happen is not difficult to understand since the determination of reproduction cost differed according to the premise upon which it rested—cost to reproduce existing plant or cost new of modern substitute equipment. Also, the judgment factor played such a large part in the estimates of unit costs and in the determination of condition that the answer varied with the honest differences of opinion as well as with the deliberate bias that existed, sad to say, in some cases. Litigation became long and tedious; rate cases stayed in the courts for years. As a consequence, it was usually found necessary to stop and bring data up to date after this process had gone on for some time; otherwise, the settlement of rates would be reached only in time to start on another round.

In the twenties we find the Interstate Commerce Commission (predecessor of the Federal Communications Commission in the regulation of telephone companies) urging increased recognition for the cost factor. And, as previously noted, we find Justice Brandeis lashing out at the rule of Smyth *v.* Ames in the following words:

"The so-called rule of Smyth *v.* Ames is, in my opinion, legally and economically, unsound. The thing devoted to public use is not specific property, tangible and intangible, but capital embarked in the enterprise. Upon the capital so invested, the federal Constitution guarantees to the utility the opportunity to earn a fair return."

The Congress of the United States, too, in the Federal Water Power Act of 1920[1] added encouragement to the use of cost as a rate base when it subjected the holder of a water-power license to a "recapture clause" which permits the govenment to take over the project, at the end of the license period, on payment of an amount equal to "net improvement," not to exceed "fair value," plus possible severance damages to related property not taken. This same "net investment" is to be used as the rate base in those instances in which jurisdiction to regulate rates is conferred upon the Federal Power Commission. It was true, of course, that the license provisions were considered to be contractual in nature and the "net investment" feature was not open to the same challenge that could be raised under the circumstances of a regular rate case. Nevertheless, this was an important step in the trend toward the use of cost in the rate base.

It has been said by some that, while Congress did not incorporate a mandate for the use of cost for rate base purposes in the Federal Power Act and the Natural Gas Act, it did indicate a preference for the prudent investment rate base by outlining the types of inquiry that the commission is authorized to make in order to determine what rates are reasonable. The commission was expressly empowered by those acts to determine the "actual legitimate cost of the property of every public utility (over which it was given jurisdiction), the depreciation therein, and, when found necessary for rate-making purposes, other facts which bear on the determination of such cost or depreciation, and the fair value of such property."[2] The Federal Power Commission in its brief before the Supreme Court in the Hope Natural Gas Case[3] asserted that by this language the Congress was inviting the commission to go as far as the Supreme Court would permit in ignoring "fair value" and in giving exclusive attention to depreciated cost.

In 1936, a uniform system of accounts was prepared by the Committee on Statistics and Accounts of the National Association of Railroad & Utilities Commissioners and at the annual convention of that body was approved and recommended to commissions represented in the membership of the association. This classification called for recording on the books of public utilities the original cost of properties owned by them, and defined original cost as "the cost of such property to the person first devoting it to the public service." There followed, as you all know, the uniform classifications of accounts prescribed by the Federal Communications Commission and the Federal Power Commission.

These were the forerunners of an open advocacy of cost as the rate base, with the "original cost" element gaining predominance.

While the Federal Power Commission had tested its wings, so to speak, in a couple of preliminary skirmishes,[4] it is considered to have

1. Now Title I of the Federal Power Act.

2. The Federal Power Act, Title II, Paragraph 208 (a).

3. FPC v. Hope Natural Gas Co., 320 U. S. 591, 64 Sup. Ct. 281, 88 L. ed. 333 (1944).

4. R. R. Comm. of Calif. v. Pac. Gas & Elec. Co., 302 U. S. 388, 58 Sup. Ct. 334, 82 L. ed. 319 (1938), in which case briefs as amici curiae were filed by FPC, FCC, and the Pennsylvania P. U. C., and Driscoll v. Edison Light & Power Co., 307 U. S. 104, 59 Sup. Ct. 715, 83 L. ed. 1134 (1939), in which a brief was also filed by FPC.

won its first real test in the case of Federal Power Commission *v.* Natural Gas Pipe Line Co. of America when the court declared:

"The Constitution does not bind rate-making bodies to the service of any single formula or combination of formulas. Agencies to whom this legislative power has been delegated are free, within the ambit of their statutory authority, to make the pragmatic adjustments which may be called for by particular circumstances. Once a fair hearing has been given, proper findings made, and other statutory requirements satisfied, the courts cannot intervene in the absence of a clear showing that the limits of due process have been overstepped. If the commission's order, as applied to the facts before it and viewed in its entirety, produces no arbitrary result, our inquiry is at an end."

In the words of Justice Black, in a concurring opinion:

". . . While the opinion of the court erases much which has been written in rate cases during the last half-century, we think this is an appropriate occasion to lay the ghost of Smyth *v.* Ames (supra), which has haunted utility regulation since 1898.

"As we read the opinion of the court, the commission is now freed from the compulsion of admitting evidence on reproduction cost or of giving any weight to that element of 'fair value.' The commission may now adopt, if it chooses, prudent investment as a rate base—the base long advocated by Mr. Justice Brandeis. And for the reasons stated by Mr. Justice Brandeis in the Southwestern Bell Telephone case there could be no constitutional objection if the commission adhered to that formula and rejected all others."

If there was still any question whether the Supreme Court would support the use of the prudent investment philosophy, such doubts were completely removed by the decision in the celebrated Hope Natural Gas Co. case which followed in 1944 and in which reproduction cost evidence was admitted but ignored. In the next case, Panhandle Eastern Pipe Line Co.,[5] the Supreme Court sustained the Federal Power Commission order in which the commission refused altogether to receive evidence of reproduction cost of the plant involved. By the time of the Colorado Interstate Gas Co. case[6] in 1945, the rate formula based on actual capital investment depreciated was well established and is today used by the Federal Power Commission to the exclusion of all other methods.

Thus we have seen the emergence of "net prudent investment" as the dominating factor in the rate-regulation picture. I hasten to mention, of course that many State Commissions do not subscribe to its exclusive use for rate regulation purposes as those of you who do business in such states as Arkansas, Ohio and Louisiana are well aware.

Arguments re use of "original cost" for regulatory purposes.—The imposition of the original cost requirement has, as you know only too well, raised considerable argument as to its merits and its lack of merit.

Perhaps more heat than light has been generated in the flood of arguments pro and con over the original cost requirement. As one writer[7] has so clearly pointed out, much of the real issue has been obscured by extending the argument to matters involved with the determination of cost, not merely original cost. Among other things, there are differences of opinion regarding reaccounting for overheads, intercompany profits, affiliated company service fees, and the cost allocations to be made when a mixed aggregate of property is acquired for securities.

It has been asserted on the one side[8] that the disclosure of predecessor cost on the books of the present owner serves no accounting purpose whatsoever and on the other[7] that the usefulness of original cost data in rate cases was demonstrated by certain nationally known public accounting firms long before the adoption of present regulations requiring maintenance of original cost data. Exponents of both views contend in an equally vociferous manner that there are advantages to each method of record keeping in determining reproduction cost. Likewise, one side points out that only by requiring the accounts to reflect original cost is there established a common denominator for recording plant constructed and plant of the same age which was purchased and that of the two bases, original cost is most easily determined with a minimum of opportunity for personal opinion to influence the answer. The other side holds that, unless a reproduction value is recorded, the book cost of like properties acquired and constructed at the same time would be entirely lacking in comparability. One holds that the use of original cost simplifies the problems involved in sales of properties between utilities; the other raises the question whether the requirement, with its attendant implications, does not make it impossible or impracticable for utility property to change hands.

So much for the arguments on which much has been written. Let us proceed with the two questions: First, how does original cost accounting affect financial statements?

It is my view that there is no accounting principle requiring the determination of original cost of property when first devoted to public service. Accounting generally is based on cost to the present company, and such costs should be accounted for properly to determine a fair presentation of financial position and results of operations. There can be no accounting objection to the determination of "original cost" if required by regulatory commissions. This segregation of cost between "original cost" and cost in addition to original cost does not violate generally accepted accounting principles.

The accounting problems and difficulties have arisen from the programs adopted or required for the depreciation, amortization or other disposition of the amounts included in the plant acquisition adjustment accounts. I am not talking here of amounts included in plant adjustment account — such items do not represent cost of property and to the extent that they do not represent cost of some other asset or expense of issuing or discount applicable to an outstanding security, they should be charged off immediately. The removal of amounts not representing cost has greatly improved the financial statements of the utilities and has removed one great uncertainty from them.

If the amounts included in the plant acquisition adjustment account are subdivided according to their character, there is no accounting problem. To the extent that such amounts relate to physical property, they should be accounted for in the same manner as the "original cost" of such physical property. To the extent that such costs relate to intangibles, they should be accounted for in accordance with the accounting rules applicable to intangibles. Briefly, such rules require the amortization of intangible costs that have a limited life, over such life. There is no accounting requirement to amortize the cost of so-called "permanent intangibles" as long as such costs are supported by value. Because of the difficulty of proving value, coupled with the requirement of an immediate write-off upon determination of permanent loss in value, it is accepted accounting, and often good business practice, to amortize so-called "permanent intangibles" either directly or through retention of surplus.

Those commissions that follow the above policies do not cause us any trouble. However, all commissions do not follow such policies. Some commissions tend to treat all costs in excess

5. (1945) 324 U. S. 635, 58 PUR (NS) 100.
6. 324 U. S. 581, 58 PUR (NS) 65, 81.

7. Advantages of Original Cost Classification of Plant—Asel R. Colbert, Public Utilities Fortnightly, March, 1945.

8. W. A. Paton—Accounting Policies of the Federal Power Commission—A. Critique. The Journal of Accountancy, June, 1944.

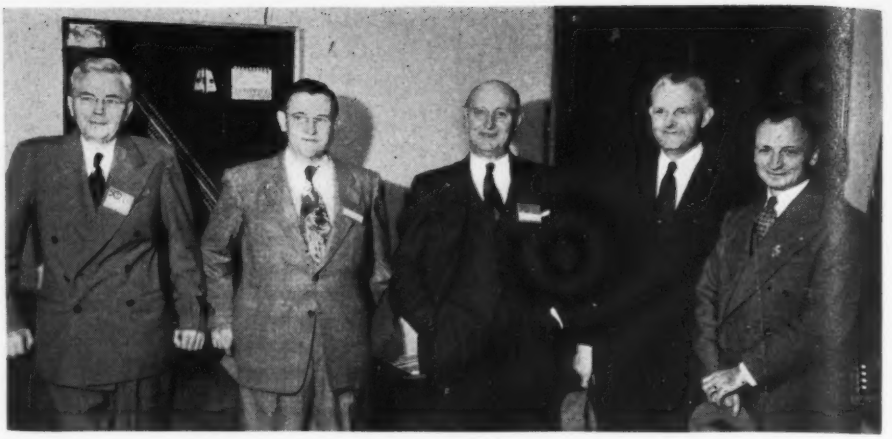
of original costs as intangibles. Such commissions do not recognize valuations of physical property and without such appraisals it is not possible to determine the portion of cost in addition to original cost that is applicable to physical property and that portion applicable to intangibles. Having considered the entire excess as intangibles, they next require a charge-off or amortization of the entire amount, generally over a fifteen year period, by charges below the line or to surplus. Hence we have this amount representing cost over original cost treated in the following ways:

(a) Allocated to physical property and accounted for in the same manner as the original cost of physical property.
(b) Amortized by charges to operating expenses.
(c) Amortized by charges below the line (income deductions).
(d) Write-offs or amortization charges to surplus.

Certainly such a variety of treatments must be confusing to the majority of people that read and use financial statements. If such amounts are arbitrarily written off without a showing of "loss in value," and most write-offs are made on the basis of a commission accounting order and not a rate case finding, can it be said that the balance sheet reflects the cost of property that is still in service and supported by value? If a company is allowed to earn on such costs and to collect the amortization from its customers and such charge-off or amortization is not reflected in operating expenses, can it be said that the results of operations are fairly presented?

A fair income account requires a matching of costs with the revenues produced. How can you justify buying a property at a fair price with the approval of the regulatory commission and immediately, or over a short period of time, charge surplus with the excess of cost over original cost. Such procedures have been required by regulatory commissions, and I have been unable to find their reasons therefor. If the purchase price is fair, it presumes the ability to earn a "fair return" on such cost. If such is the case, a write-off of cost in addition to original cost results in understating the cost of assets in the balance sheet, relieves the income account of depreciation or amortization charges, and results in an earning ratio to total capitalization that is higher than the actual ratio that would result if costs were maintained in the balance sheet until they had lost their value or had been retired from service.

Isn't such a showing of high earnings likely to mislead investors and make a company vulnerable for rate reductions and thus deny it the right to recoup its full cost of property? Can such treatment be considered a proper matching of costs with revenue that is so important in the fair presentation of an income account? On the other hand, if you cannot earn a fair return on the purchase price, how do you justify the purchase?



Left to right: J. F. JAAP, Cook Electric Co.; J. L. BROWN, Port Jervis, N. Y.; CHESTER RUTH, Cook company; M. J. STOOKER, Kansas City, Mo., and COLBY HAMILTON, Kansas City, Mo.

I believe it is clear from the foregoing brief discussion that the "original cost" concepts do affect financial statements. Before we can finally determine the propriety of such effect we have to probe more deeply into the underlying reasons of the commissions in ordering such adjustments so that their validity may be reviewed and if necessary tested. Up to date, I do not believe this has been done adequately.

Let us now look at the second question—What is the effect of the original cost principle on rate regulation?

Simply speaking, and without going into technical refinements, the "net prudent investment" principle that has become so popular with some commissions starts with the amounts recorded upon the books. First you have the "original cost." Presumably if such determination has been approved by the regulatory commission it will be accepted for rate purposes. Even here, however, there are cases where "original cost" has been adjusted on the theory that the expenditure was not prudently made. So far as I know, this issue has not been tested in the courts. Then we add the plant acquisition adjustment account. This is the amount of cost in excess of original cost that the company has been permitted to retain on its books. This amount is subject to scrutiny to determine whether or not it is a cost to be recouped from the customer. If it is not subject to recoupment, it has lost its value and good accounting would require it to be charged off.

Presumably in a rate hearing you would have an opportunity to claim those portions of cost in addition to original cost that you have been ordered to write off. However, here again I do not know of any case where such amounts have been added back. If they were, good accounting would require their reinstatement. Working capital is added and depreciation is deducted, thus arriving at the net rate base. The depreciation deduction is a separate problem that I will not attempt to cover here. This is a "prudent investment" rate base; it gives no consideration to changes in price levels. Remember also that the capitalization of the company is based on such cost determinations and hence includes no allowance for price changes.

Many argue that an injustice in the base can be compensated for in the rate of return, and I believe it could be. But are companies getting such compensation when net prudent investment is the base and a present day cost of money supports the fair rate of return? Such a policy, it seems to me, sets the economics of utilities in a field of its own, apart from the economics of the rest of industry in the country. On the one hand you have a historical dollar with its then purchasing power in the base, with present day cost of money determining the rate of return. It is a matching of unrelated things. The logical application of this formula bars the investor in utility equities from participating in price rises when the economy of the country is good but does not necessarily protect him in periods of a poor economy.

In other words, there is a ceiling on what he can earn in good times but no assurance he can continue to do so in bad times. As a matter of fact, such a philosophy puts the utility in just the reverse economy from the rest of the country. When prices are

(Please turn to page 117)

HOW TO READ A BALANCE SHEET

By T. A. BOYD
Vice President
General Telephone Corp.

IN ORDER to read a balance sheet intelligently it is essential to have a knowledge of the purpose of the balance sheet, the information to be gained from it and the limitations of such information.

The balance sheet serves many purposes. It is used by the management in the operation of the business. It is used by banks and other institutions to determine the extent to which credit can be extended to a company. It provides the owners of the business with information as to the financial condition of the company. It is also used to furnish information to any other interested parties such as public officials, prospective purchasers of the company's capital stock, etc.

The information provided by the balance sheet is limited in that it shows the financial condition only at a given date. The business, however, does not stop at that date but continues to go on and the financial condition changes from day to day. It does not show the results of operation for any particular period. It does, however, reflect to the most accurate degree possible the results of past operations from the inception of the company to the date of the balance sheet.

The balance sheet is not exact. Many of the items shown on the balance sheet, both on the assets side and the liabilities side, such as reserves, are figures which represent estimates made by the management based on an intimate knowledge of the business and what may reasonably be expected in the future operation of the business.

While the information shown by the balance sheet reflects the financial condition as of a specific date any knowledge which the management possesses of any events which will materially affect the condition shown on the specific date should be set forth in footnotes accompanying the balance sheet.

The above observations apply to all balance sheets in general. As between industries, however, certain important balance sheet items have a different significance in relation to the enterprise. In most manufacturing companies and other industrial companies the largest and most important items to consider are current assets and current liabilities and their relation to each other. Current assets include inventories of goods to be sold and of materials to go into goods to be sold, accounts receivable and cash. Current liabilities include amounts due for materials, labor, taxes and other costs incurred in producing the goods to be sold. Because of the large investment in inventories, through rapid turnover and greater susceptibility to fluctation in values, long term debt in the case of the ordinary industrial company is usually relatively small. Short term borrowings are more prevalent. On the other hand, in the case of a public utility company, the service or product sold requires a very large investment in fixed plant of long life and consequently the most important items to consider on the balance sheet of this type of company are the plant and depreciation reserve accounts and the capital structure, represented by long term debt and capital stock outstanding.

INDEPENDENT TELEPHONE COMPANY
Balance Sheet — December 31, 1946

ASSETS

Telephone Plant (See Note):	
Tangible plant at original cost plus $100,000 remaining additional cost of tangible plant acquired	$ 9,000,000
Intangibles—	
Organization and franchises	15,000
Remaining cost in addition to the cost of tangible plant acquired	500,000
	$ 9,515,000
Other Investments, stated at cost or less	$ 5,000
Current Assets:	
Cash	$ 500,000
United States Government securities	50,000
Special cash deposits	20,000
Accounts receivable—	
Customers	250,000
Miscellaneous	60 000
Less—Reserve for uncollectible accounts	3,000*
Materials and supplies, priced at average cost	500,000
	$ 1,383,000
Prepaid Accounts and Deferred Charges:	
Prepayments	$ 30,000
Debt discount and expense in process of amortization	260,000
Other deferred charges	35,000
	$ 325,000
	$11,228,000

* Denotes red figure.

NOTE—Telephone plant is stated at cost and the original cost reclassification determined by the company, as well as the amortization of the plant acquisition adjustment over a twenty-five year period commencing January 1, 1940, have been approved by the Public Service Commission of ——— The original cost reclassification has not been reviewed or approved by the Federal Communications Commission.

LIABILITIES

Capital Stock and Surplus:	
Preferred stock—authorized 100,000 shares, no par value—$2 preferred stock (cumulative) no par value—	
Authorized, issued and outstanding 40,000 shares, entitled in involuntary liquidation to $48 per share aggregating $1,920,000, stated at	$ 1,880,000
Common stock and surplus—	
Common stock—	
Authorized 200,000 shares, no par value	
Issued and outstanding 70,000 shares stated at	2,100,000
Surplus	280,000
Total common stock and surplus	$ 2,380,000
Total capital stock and surplus	$ 4,260,000
Long Term Debt:	
First Mortgage Bonds, 3% series due July 1, 1976	$ 3,500,000
Current Liabilities:	
Accounts payable	$ 400,000
Accrued taxes—	
General	200,000
Federal income	150,000
Accrued interest	50,000
Accrued insurance	40,000
Miscellaneous current liabilities	25,000
	$ 865,000
Reserves and Deferred Credits:	
Reserve for depreciation	$ 2,600,000
Deferred credits	3,000
	$ 2,603,000
	$11,228,000

Fig. 1

Crystal gazing pays off

Looking ahead to a shortage of quartz and developing a satisfactory man-made substitute has stepped up the Bell System's coaxial cable construction program.

The advertisement on the opposite page tells the public about this bit of foresight—and the valuable results it is producing. Appearing in national magazines during October, it is another indication of how the telephone industry plans ahead for better and better service.

AN ADVERTISEMENT OF THE BELL TELEPHONE SYSTEM

CRYSTALS THAT GROW FROM A SEED . . . The large crystal is an EDT *(Ethylene Diamine Tartrate)* Crystal. It is started from seed (a piece of the mother crystal) and revolved continuously in a solution. In three months it grows to the size shown. Thousands of small plates, cut from the large crystals, are used in filters in Long Distance circuits. By sorting out each telephone conversation, they enable 480 conversations to go over one coaxial circuit at one time.

Crystals for Conversations

Many more Long Distance telephone coaxial circuits, in urgent demand, can be built next year because of Bell Laboratories research and development on synthetic crystals.

Plates of quartz are ordinarily used in the electric wave filters of these circuits.

A long time ago, Bell Telephone Laboratories foresaw a shortage in natural quartz. They devoted years of study to the physics and chemistry of synthetic crystals. They now have one that can replace quartz in telephone filters. Western Electric is now growing these crystals in the factory.

Here again Bell Telephone Laboratories' idea of making things better at lower cost helps to give you the best and most economical telephone service in the world.

BELL TELEPHONE SYSTEM

Because most of those at this meeting are interested in the public utility balance sheet this discussion will be confined to that type of balance sheet.

Fig. 1 is a sample balance sheet considered to be typical of the average medium-sized Independent telephone company. The balance sheet of any other public utility of comparable size would be similar in set-up and in the information portrayed. The more important items on this balance sheet will be discussed

Left to right: MR. and MRS. E. C. HUNT, JR., Bassett, Neb.; MRS. ROBERT C. HUNT, Blair, Neb., and J. W. HUNTER, Sherron Metallic Corp.

Telephone Plant

Telephone plant is the first item listed on the assets side of the balance sheet and represents by far the largest part of the total investment of the company, normally from 80 to 90 per cent of the company's total assets. It is extremely important to a proper analysis of the balance sheet, therefore, that a comprehensive, intelligent description of the basis on which the plant is recorded on the company's books, and, therefore, on its balance sheet be included. If a full description is too lengthy to be included under the caption on the balance sheet itself, it will usually be found in a footnote.

The most common practice today is to carry the plant account at cost to the company. This cost may be cash cost or cost represented by the company's securities issued in exchange for properties acquired. Such cost in most cases will be divided into several parts. The uniform systems of accounts of federal and most state regulatory commissions now require the plant account to be segregated between "original cost," which is defined as the cost when first devoted to public use and excess over original cost, which is carried in a plant acquisition adjustment account. If the so-called "original cost" is greater than cost to the company, the difference is carried as a credit in the acquisition adjustment account. The ultimate disposition of the acquisition adjustment account is subject to the direction of the regulatory commission having jurisdiction. Therefore, it is important that the balance sheet show separately the "original cost" and the amount in the acquisition adjustment account. The total of these items will show the cost of the plant to the company. The plant account on the balance sheet is also usually further divided between the cost of tangible plant and intangibles. The cost of tangible plant is the actual cost of constructing or acquiring the physical plant. Intangibles represent costs of organization, franchises and other costs not represented by physical property. In the case of plant acquired as an operating unit, the amount segregated to plant acquisition adjustment may very well contain both tangible and intangible costs, the intangible costs generally speaking being any costs over and above the value of the plant based on price levels at the time of purchase. The plant acquisition adjustment account in this case should be segregated between tangible plant and intangibles. Any disposition of amounts in plant acquistion adjustment account which has been ordered by the regulatory commission should be clearly explained.

Since the plant account comprises such a large part of the total assets of the public utility company a complete explanation of all the elements of cost as outlined above is necessary to an intelligent analysis of the balance sheet. Banks, in considering loans and institutions considering the purchase of securities of the company place a great deal of importance in this information.

Other Investments

Other investments owned by a public utility company are usually relatively small and are usually carried at cost on the balance sheet. If large, they should be carried at the lower of cost or market.

Current Assets

Current assets consist of cash, government securities, accounts receivable, materials and supplies and other items readily converted into cash and should be sufficient to carry on the day-to-day operations of the business including the prompt payment of accounts payable, payroll, taxes, interest and other current liabilities when they become due. The ratio of current assets to current liabilities does not have the same significance in a public utility as in the ordinary industrial company.

In fact, it is said by some that a public utility company does not need any net working capital because certain of of its current liabilities such as federal and state taxes are not due until from several months to a year after they become a liability and, therefore, it is not necessary for the cash to be available at the balance sheet date for the payment of these accrued liabilities. There would appear to be considerable logic to this position as long as conditions go along satisfactorily, but a sharp decline in business bringing about a substantial drop in revenues and an inability to successfully sell securities would doubtless prove very embarrassing if not fatal to a company which followed this practice.

It is true, however, that many public utility companies do, at certain times, have little or no net working capital and may continue in this manner for a considerable period. This usually means that the company has used its cash from earnings for the construction of additions to plant and intends at the proper time to reimburse its treasury and replace this cash in working capital by the sale of securities against the property additions which have been made.

A lack of working capital, therefore, should be no cause for concern in the case of a public utility company which otherwise has a sound financial structure and satisfactory earnings.

Prepaid Accounts and Deferred Charges

These items represent payments made or expenses incurred which are chargeable to future operations such as prepaid insurance, taxes, rents, unamortized bond discount and expense, etc. These items are charged to operations during the future periods which receive the benefits from the expenditures.

Usually the only item of any considerable size in this category is Unamortized Bond Discount and Expense, which represents the discount below face value at which bonds were sold plus expenses of selling the issue. While this asset would have no realizable value if the company were to liquidate and go out of business, it is an

asset to the company as a going concern because it represents an advance payment on cost of money. It is an element in the effective rate of interest on the bonds and is amortized by charges to expense over the life of the bonds.

The coupon rate of interest plus the amortization reflects in the income account the cost of money to the company. For example, the effective rate of interest on 30-year bonds is the same whether 3 per cent bonds are sold for par or 2⅞ per cent bonds are sold at $97.50. In the first instance the cost of money all appears as interest in the income statement. In the second instance the cost of money is reflected in the sum of interest expense and amortization.

Capital Stock and Surplus

Capital stock represents ownership of the business. There may be a number of classes of capital stock outstanding, giving the owners varying degrees of preference as to assets and dividends. The most common classes are preferred stock and common stock. The holders of preferred stock have a right to receive dividends before dividends are paid on the common stock and to the assets in liquidation before the common stockholders receive anything. Usually preferred stockholders do not have voting rights unless the company has failed to pay dividends on the preferred stock for a designated period, although the statutes of some states require that preferred stocks have the right to vote.

The amount to which the holders of the preferred stock are entitled in involuntary liquidation is, or should be, indicated on the balance sheet. This amount is normally the par value in the case of a par value stock. In the case of a preferred stock without par value the involuntary liquidation value may be different than the stated value and is shown as well as the stated value.

The fact that the involuntary liquidation value is shown on the balance sheet does not mean that the company owes this amount to the preferred stockholders. It does mean, however, that if the company is forced into liquidation the preferred stockholders have a prior claim to the extent of that amount out of any assets remaining after all creditors are paid off.

The common stock represents the rights of the ordinary owners who assume the greatest risks in return for the opportunity to realize the greatest benefits. The amount of dollars shown for common stock outstanding may or may not represent cash received by the company on the original sale of its common stock. Common stock may have been issued for properties or

OTTO E. KOECHER, San Antonio, Tex., Signal Corps engineer, reads the headline that "old" PETE WINEMILLER made Chicago.

other assets. The amount has no relation to its market value nor to its value upon liquidation. The assets of the company may be very conservatively valued considering the company as a going concern, but if it ceases to function, a forced sale of the plant and other assets could very well be at a loss so great as to entirely wipe out any value for the common stock.

A significant bit of information is revealed by the common stock account plus the surplus account, which taken together represents the book value of the common stock. This is the ratio of the book value of the common stock to total capitalization. The lower the ratio of book value of common to total capitalization the higher the rate of return to the common stockholder—but also, the greater the risk to the common stockholder of losing his money. Because of the high fixed charges on the large amount of senior securities outstanding if the ratio is too low, a drop in earnings may entirely wipe out any earnings for the common stockholders and could easily result in a failure to earn the dividends on the preferred stock. Obviously, this would have a disastrous effect on the market value of the common stock, which, after all, is the measure of its value to the stockholder.

The ratio of book value of common stock to total capitalization is usually lower in a public utility company than in a conservatively financed industrial. This is no indication that the utilities are less soundly financed but that they can safely carry a lower ratio because of the very large investment in fixed plant and the greater stability of earnings. While the ratio varies considerably among utility companies, it would seem that a ratio of less than 25 per cent of book value of common stock to total capitalization would be low and on the speculative side and that a sounder ratio would be 30 per cent or somewhat higher. As well as increasing the safety of the common stock the higher ratio increases the investment quality of the senior securities and enables the company to sell them at more advantageous prices.

Long Term Debt

Long term debt represents money borrowed by the company through the sale of bonds or notes. These evidences of debt may be in any of a number of forms such as mortgage bonds, debentures, long term notes, etc., but probably the most common is the first mortgage bond, which is secured by a first lien on the property of the company. The indenture under which these bonds are issued is almost without exception of the "open end" type which permits the company to issue and sell additional bonds from time to time upon the pledge of additional property constructed or acquired after the original date of the indenture and provided that the earnings of the company bear a specified relation to the annual bond interest charges.

The outstanding bonds of a public utility company are usually a larger proportion of the capitalization and have a longer maturity than those of industrial companies. Here again the reason is found in the very large investment in fixed plant having a long life and in the relative stability of earnings. The fixed plant of a public utility is a permanent asset in that it is constantly kept at a high rate of operating efficiency through maintenance and through the replacement of those portions which wear out or become obsolete. The whole plant does not wear out at any one time. Therefore, it is logical that a proper amount of bonded indebtedness should be a part of the permanent capitalization of the company.

Bonds usually have a life of from 25 to 50 years and upon maturity are refunded or paid off by the issuance of other bonds for another long period. While some bond issues carry sinking funds which require the retirement of a certain portion of the outstanding bonds periodically out of earnings, the amount of such retirements are usually an extremely small portion of the total issue. It is not feasible, ordinarily, for a public utility to retire a bond issue through earnings because the only earnings available are the earnings accruing to the common stock.

In order to retire any substantial amount of bonds it would be necessary for the stockholders to forego dividends. The only practicable method of permanently retiring a bond issue is by the issuance and sale of additional capital stock. Considering that the security back of the bonds is permanent, there would seem to be no good reason

to do this assuming the bonds are a reasonable portion of the total capital particularly since the cost of money borrowed on the sale of bonds is usually considerably less than the cost of capital stock money.

Bonded debt of a public utility company amounting to from 40 to 50 per cent of the book cost of tangible plant less the depreciation reserve normally would appear to be conservative. Usually the resulting ratio to capitalization would be somewhat less.

Reserves and Deferred Credits

Under this heading are included the depreciation reserve and miscellaneous reserves and deferred credit items.

The largest and most important reserve is the depreciation reserve. This is the reserve provided by the company to compensate it for the loss in value of plant used up in the business through wear and tear, inadequacy and obsolescence. In general, in the telephone industry the reserve is computed on a "straight line" basis. In other words the service lives of the various classes of plant are estimated, and the cost less estimated salvage value is amortized by charges against earnings over the service life in equal monthly amounts. These amounts are credited to the depreciation reserve. When an item of plant is retired the amount at which it is carried in plant is credited to the plant account and charged to the reserve. Any salvage realized, less cost of removal of the plant, is credited to the reserve.

Many factors enter into the estimate of service lives, some unknown at the time of making the estimates and, therefore, it is necessary for the management constantly to revise its estimates as time goes on. If this practice is followed the company should be able to keep intact its capital invested in plant. Failure to follow this course will result in dissipation of the company's capital. Because of the many factors entering into the estimates, it cannot be said that as of any particular date the balance in the depreciation reserve is an accurate measure of the accrued depreciation in the plant nor that the reserve should be a certain percentage of plant.

Before the war, depreciation reserves of Independent telephone companies amounted usually to from 20 to 30 per cent of depreciable plant with the average somewhat around 25 per cent. Reserves of this size were considered, in general, to be adequate. During the war, however, when materials and labor could not be obtained plant which would ordinarily have been retired was continued in service so that the ratio of depreciation reserve to plant increased substantially, in some cases, to as much as 40 per cent and more. These reserves are being reduced now, and probably will be reduced substantially in the next few years, by the tremendous plant replacements now being made.

Other utilities, particularly in the electric and gas industries, for many years followed the practice of providing more or less arbitrary amounts out of earnings to cover retirements of plant only. These retirement reserves, of course, were much lower in relation to plant than the depreciation reserves provided by the companies in the telephone industry. Many, if not most of these companies in the past 10 years have changed to the depreciation reserve practice and the reserves of these companies are becoming substantially larger.

In considering the depreciation reserve in the balance sheet all of the above factors must be kept in mind.

A balance sheet when properly presented contains a wealth of information as to the affairs of the company. As previously stated, however, the balance sheet alone does not and can not portray the complete picture of the operations of the company. To obtain a complete picture it is necessary also to analyze the income statements, and much other underlying data as to the nature of the business and its operations.

PLANT COMMITTEE REPORT

By L. W. HILL
Chairman,
USITA Plant Committee

THE use of poles to support both power and communication circuits is not new, having been employed before 1890. There are today more than 6,000,000 poles used jointly by power and telephone organizations in the United States. The great bulk of these poles are located in urban areas where the voltages of the power circuits concerned are generally less than 5,000 volts and the span lengths between poles generally do not exceed about 150 ft.

As power and telephone lines were extended into rural territory, new problems were encountered in the application of joint construction because of the use of longer spans and higher voltages for the power circuits and the increased noise induction in the necessarily longer exposures. Progress in the art through cooperation of the telephone industry with the Edison Electric Institute and the Rural Electrification Administration has brought about the developments which now make long span high voltage rural joint use feasible where conditions are favorable.

The subject of joint use of pole lines for power and telephone services is one requiring much time and effort. A great amount of work has been accomplished by the committee. The committee wishes to cover every phase of the subject that it is feasible to cover in order that a complete picture will be presented. There is much yet remaining to be done before a final report is ready for submission.

At a meeting of the board of directors of the association in April, 1947, a subcommittee of the Plant Committee was authorized to be created for the purpose of studying and making recommendations with respect to the standardization of various items of materials used by the Independent telephone industry.

Final action in connection with the formation of this subcommittee was taken in August, 1947. It was realized at the time that not too much could be accomplished during the remainder of the association year.

Your chairman, however, continued his work as the USITA representative on the American Standards Association Sectional Committee on Specification for Wood Poles. This work is progressing nicely and from what was accomplished at the last meeting in Chicago on October 2 and 3, 1947, it now appears that final action will soon be taken to include the miscellaneous conifers as American standards. This will make available to the pole using companies hundreds of thousands of poles for use in addition to those now being produced under American standard specifications.

55 YEARS AGO THIS MONTH

DR. BELL OPENED UP THE FIRST LONG DISTANCE LINE BETWEEN NEW YORK AND CHICAGO

On October 18, 1892, Dr. Bell spoke over the first long distance line connecting America's two largest cities.

The New York - Chicago telephone line had been rushed to completion so that it would be ready for the Columbian Exposition at Chicago. It was ready on the scheduled date, even though the opening of the exposition was delayed until the following year. This was another striking example of telephone service in action. Prompt and efficient service is characteristic of telephone workers in every department. It is part of their tradition of faithfulness and dependability.

In Exide Batteries you will find the same dependability for which telephone service is famous throughout the world. Since 1895, Exide Batteries have been proving themselves worthy of that trust.

Exide
BATTERIES

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • Exide Batteries of Canada, Limited, Toronto

RADIO SERVICE COMMITTEE REPORT

By F. E. NORRIS
Chairman

I WISH to tell you a few things about a hearing to be held at the offices of the Federal Communications Commission in Washington on the 24th of next month. That hearing concerns the allocation of frequencies to the various classes of non-governmental radio services. The telephone industry has felt from the beginning that it had been assigned far fewer channels than it requires to render adequate radio-telephone service. As more and more mobile systems are placed in service and the demand for that type of service grows, and as plans to use point-to-point radio for toll and rural service develop, it becomes evident that our industry's contention for additional channels is sound.

The FCC hearing, however, is to consider other matters of importance besides the allocation of frequencies. The order for the hearing, for example, includes this item: To determine the necessity and propriety of permitting or requiring the interconnection of land line facilities of general communication common carriers with the radio facilities of other common carriers competing in the same area in the general mobile service.

As I understand the meaning of this item, it concerns the question as to whether telephone companies either may be "permitted or required" to connect with the facilities of privately-owned radio systems. There is no mystery about it; these privately-owned systems *are* competing with the telephone companies and particularly so in those instances where the telephone companies are rendering mobile service. That should be a matter of concern to us. Also, we should be concerned about another phrase in the item quoted: The term, "other common carriers."

Privately-owned systems fall into two general categories. One of these is the system installed for the exclusive use of the company making the installation. That type of system is comparable to a PABX installed in a factory for interior use only and without connections to the central office.

The other type, the one with which we perhaps should be most concerned, is one where a person or company, not a telephone company, installs a radio system and *sells* the service to anyone in the community wanting it. This arrangement apparently is that referred to in the FCC order as being an "other common carrier." We believe that service by such limited common carriers contemplates that charges will be consistent with legally filed and accepted tariffs.

The operating arrangement would be like this: The subscribers would be doctors, newspapers, refrigeration companies, etc. A central bureau would be established as the coordinating link between mobile units and regular land telephones. Calls between mobile units and land telephones would be made via this central bureau on a *relayed message* basis, i.e., a direct transmission path would not be established between a mobile unit and a land station.

This, of course, describes the service arrangement at its inception, but it is easy to envision that one day the question will arise as to why the telephone company does not permit direct connection between the "isolated" radio system and the telephone exchange, thereby eliminating the need for relaying messages. That apparently is one of the questions which the commission intends exploring at the hearing, presumably with the view of handing down an order in the matter.

It is, of course, impossible to say what results might come from an exploration of the question as to whether telephone companies might be permitted or required to connect their facilities with those of limited common carriers, but this much seems certain. Such connections are not in the interest of the telephone companies, nor in the interest of the public in those cases where the telephone companies are willing and able to render a comparable or improved service. It is not difficult to imagine the confusion which will result if a number of companies are responsible for rendering essential utility service in a given area.

With the passing of time, we see more and more evidence that there is a real need for mobile radio-telephone service. This can be found in the rapidly growing list of mobile radio systems being planned and placed in service throughout the country. It stands to reason that the public must be served, and, if the telephone companies fail to meet their responsibilities, we can expect that the service will be rendered by others. I firmly believe that we should recognize this fact before the developing events lead to serious confusion. Some companies, not telephone companies either, now are entering the field of rendering mobile radio service to anyone who wants it.

An additional factor we might wish to bear in mind when considering how these so-called limited common carriers may affect us is that they very likely will concern themselves with the most profitable type of business they can pick up. In other words, it is likely they will tend to skim off the cream of the potential customer crop. We should recognize this and be sure that our telephone companies do not stand idly by at the outset and one day be forced to enter the radio picture and then get what is left after that cream has been removed.

It may be true that radio-telephone service is not a particularly attractive financial venture at the present time when we think in terms of *general* mobile service, that is, the kind that is interconnected with the regular telephone system. The experts seem to think that this is a temporary situation, that, as more and more equipment is built and as techniques are improved, the cost of the equipment will be brought into line so that the service can be profitably rendered. That is encouraging because we in the industry believe that interconnected service—complete mobile service—is what the majority of potential customers need.

But while we are waiting for the costs of rendering general mobile service to be brought into line with the charges being made for that service, we should not lose sight of the fact that isolated mobile service may serve a very useful purpose. Certainly if we are capable of rendering general mobile service, we are capable of rendering isolated service. . . . But we should be as willing to render that kind of service when necessary to meet the public needs as we are capable of rendering it.

We may be inclined to think of isolated service as an interim arrangement. . . . But in the meantime, it would be hard to argue that isolated mobile service is no better than no service at all. It has in its favor a lower first cost than a full selective, interconnected system, and that fact certainly should not be ignored. Yet, over the long pull, there will be, in my opinion, a clamor to provide direct transmission paths between the isolated mobile units and the land telephones, even at somewhat higher charges.

Another phase of this problem which we may anticipate will be that some of the individual owners of isolated systems, tiring of being in the complex communication business, will approach the telephone companies with the thought of selling out to them. . . .

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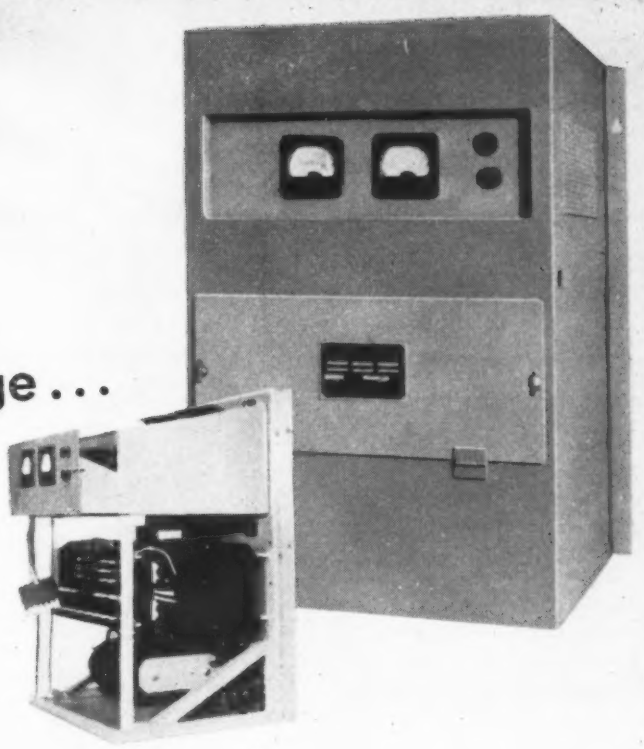

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It may be logical for the telephone companies to act favorably on such propositions, but it is possible that complications may arise, as radio equipment for some time can be expected to have a high rate of obsolescence and, additionally, in some cases difficulties may arise in arranging these privately-owned systems for general mobile service, if that becomes desirable or necessary. Telephone companies initially providing isolated systems would, of course, contemplate such a conversion and plan accordingly.

Taken in the over-all, it just seems reasonable that telephone companies most seriously consider these matters.

With reference to the forthcoming hearings before the FCC, the USITA will be represented by B. C. Burden, one of the three technical advisors connected with the Radio Service Committee. Additionally, certain individual companies will make appearances in their own behalf. It is not too late for others to make appearances at this hearing and the Radio Service Committee will be glad to be of such service as it can in assisting any one interested. Notice of intention to appear must be filed with the FCC.

These efforts will be all to the good for the entire industry, but over the long pull they may be of little benefit if the large body of Independent companies do not recognize the situation which is developing and take appropriate steps to protect their positions and to meet their responsibilities to the public.

Our Industry—Today, Tomorrow

(Continued from page 23)

We have referred to the character of the increases that should be sought. In any contemplated rate adjustment, we urge that particular emphasis be placed on the kinds of service that stay with us through good times and bad. Despite Mr. Truman's avowed determination to prevent future depressions, business recessions still have a way of re-occurring.

Because of changes that have occurred in the character of our revenues during the past decade and a half, future recessions are bound to affect our earnings more than ever in the past. For example, a review of Independent company operating figures as reported to the USITA in the late twenties, showed that at that time toll revenues accounted for only 23 per cent of all revenues and were equivalent to about 81 per cent of net operating income. By 1945, an astounding change had come about, not only had the proportion of toll revenue to all revenue increased by 52 per cent, toll revenue had grown to a point where it was nearly 2½ times net operating income.

Toll revenue has always been an important part of our business, but never until the past few years has it been such a vital one. Devoid of toll revenue in the late twenties, our operations still would have been profitable, and while a 20 per cent decline in toll revenue would have had a noticeable effect on our net operating income in that year, it would have occasioned no frightening alarm.

Yet, let us consider the result of a 20 per cent reduction in toll revenue for 1945. This would have meant that our net operating income for that year would have been cut in two. It is not difficult to paint even a more gloomy picture for should we but substitute the 1942 toll revenue figure for that in the 1945 reports, net operating income vanishes into thin air.

Faced with such simple facts, it is impossible to escape the conclusion that our business has lost a certain part of that precious element of stability which characterized it in the twenties. Toll revenue, to a much greater degree than exchange revenue, follows the pattern of general business activity and because of our increased dependence on this class of revenue, we must be prepared to face greater fluctuations in earnings than we have known in the past.

Perhaps there is some merit in the suggestion that such a condition warrants for the industry a more liberal return than has been allowed generally over the past 20 or 30 years, perhaps a return comparable to that enjoyed in the hazardous days of early growth and development.

But meanwhile and certainly until such a view is more generally accepted, we must apply ourselves to the search for the kind of revenue that will carry us through bad times as well as good.

At a time when our industry is possessed with a great abundance of new technical developments—when it is on the threshold of many improvements in the art of telephony, I have talked of the future in terms of the great need for adequate earnings. You may well question whether or not I have given sufficient consideration to the other aspects of our industry's future and tomorrow's telephone service.

But it seems to me that one thing is crystal clear. We must first restore our service to prewar standards and then continue forward with further improvements in the art. Adequate earnings constitute the first step in such a program. Without them, all our plans, all our dreams, all our hopes for the future will fail to take a material form.

I have every confidence that we will go forward and continue to make progress. We have the technical knowledge, we have the experience, we have the know-how to continue to give the best telephone service in the world. We have the whole-hearted cooperation of our employes—cooperation that comes to management which treats its people fairly and well and I have every confidence that we will continue to have satisfactory relations with our employes.

Moreover, I have every confidence of our relations with our customers. We will continue on the basis of that fine understanding which has been so much in evidence in the past. Many years have been devoted to building good public relations, and by continuing to improve the service which we render, we can assure ourselves of public support.

That public has asked the industry to do a tremendous job in communications and it is for these reasons that I have stressed the fundamental and long term importance in making certain that we get the revenues necessary to do the job. All of the things that I have mentioned — good service, good employe relations, good public relations, are dependent entirely on one factor. That factor is adequate operating revenue. When this is clearly recognized by all of us and when as a result of this recognition there comes prompt and effective action, I am certain that the telephone industry will make for itself even a greater record of progress in the years to come than it has in those that are now behind us.

V V

McGregor, Minn., Company Ordered to Improve Service

The McGregor (Minn.) Telephone Co. has been ordered to improve its service or show cause, by Oct. 26, why the Minnesota Railroad & Warehouse Commission should not take action according to state law.

The commission's order, dated Oct. 6, was in response to a petition filed with it by 47 subscribers to the McGregor company who said that they were not furnished reasonably adequate service.

V V

Approves Dissolution

Dissolution of the Northwestern-Mercer Telephone Co. was approved Sept. 29 by the Pennsylvania Public Utility Commission.

"Inductive Coordination of Electric Power and Communication Circuits" by

LAURENCE J. CORBETT

Member, American Institute of Electrical Engineers, Fellow, American Association for the Advancement of Science

is the *only one* combining under one cover the essentials of this important subject involving many divisions which have been treated separately and occasionally in numerous reports and articles. It includes results of the author's researches, fitted into a broad survey of the principles applying to Inductive Coordination. It is NOT a compilation of catalog data or undigested reports. It is a carefully developed treatment and clarification of a subject which, though important, has received too little attention. Many diagrams illustrate the practical application of the principles in a manner very readily followed. The variation in values of factors is presented, and theory and practice under these conditions are carefully differentiated.

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Your Association's Affairs

(Continued from page 27)

Poor service in many cases is the direct offspring of inadequate earnings. . . .

The public is cognizant of the fact that utilities have held the line against inflation more firmly than any other industrial group. The regulatory commissions of the country generally have risen to their responsibilities and granted rate increase applications wherever the need for higher revenues has been demonstrated. . . .

In order to induce investors to keep on entrusting their money to our business and thus to provide the additional funds required for service improvements and plant expansion, we must be able to convince them not only that a telephone investment is safe but also that the return to be obtained is attractive, and that both of these conditions will continue well into the future.

I would like to make special reference to the small units in our part of the industry.

I do this notwithstanding the fact that the solicitude of our association for the interests of the small companies is a fact too well known to require repetition. Much of the time of the association is devoted to studying the problems of those units which do not have the resources to employ the technical skills required to provide the kind of telephone service the public has a right to expect. The larger companies, with larger resources, do not find it so necessary to rely upon advice available from a central place such as the association.

The accomplishments of the association over the years on behalf of the smaller companies attest the seriousness with which the problems of the small units have been viewed. We may be sure that the association in the future will be equally desirous of being of assistance.

One way the smaller companies can help themselves is to take increased advantage of the advisory services of their manufacturers and suppliers. Another way is to make more frequent use of the information and facilities of their state and national trade associations.

Still another way for the smaller companies to help themselves is to become assiduous readers of the industry journals. In every issue of the journals will be found helpful tips on how to make operating practices more efficient. All companies, the smaller ones particularly, will be much benefited by treating the magazines as "must" reading.

Matters Before the FCC

More than eight months have elapsed since the disposition of the Federal Communications Commission to bring about further interstate toll rate reductions found expression in a letter from Commission Paul A. Walker on Feb. 5 to the NARUC's Special Telephone Committee. It will be recalled that in the letter it was stated that the commission was "actively considering the possibilities of a substantial reduction . . . in view of the apparent high rate of earnings of Long Lines."

The interest of the state regulatory commissions in the interstate rate structure had earlier been indicated by a resolution adopted by the NARUC convention in November, 1946, asking the federal commission, before considering further reductions, to afford an opportunity to the states to present evidence to show the disparity between interstate and intrastate rates and to proceed under the cooperative plan in determining a sound method of separation of property, revenue, and expenses as between interstate and intrastate.

Following the sending of Commissioner Walker's letter, there was a meeting on Feb. 20 in Washington between representatives of the state commissions and the federal commission. At this meeting it was decided to defer consideration of reductions for a time in order to permit intensive separations studies to be made.

A proposed revised "Separations Manual for Telephone Companies" has eventuated from these studies. As of the date of the holding of this convention the manual is in preliminary form, but it is anticipated that at a meeting of regulatory representatives with representatives of the AT&T on Oct. 20 it will be given approval by the study group. . . .

Since Commissioner Walker's letter was written other water has gone under the bridge. A prolonged telephone strike began on Apr. 7. This had the effect of substantially altering revenue showings. Toll plant investment has undoubtedly increased tremendously since last February. This, when tied in with the earnings showing, might be regarded as producing a far different picture from that which the FCC may have believed existed shortly after the first of the year. . . .

It may be assumed, in view of the NARUC resolution of November, 1946, that before any reduction is contemplated the state commissions will insist upon a formal proceeding in accordance with the terms of the resolution.

The Voice Recording Case. An FCC proceeding in which our assoication has interested itself is one involving the use of recording devices to record tele-

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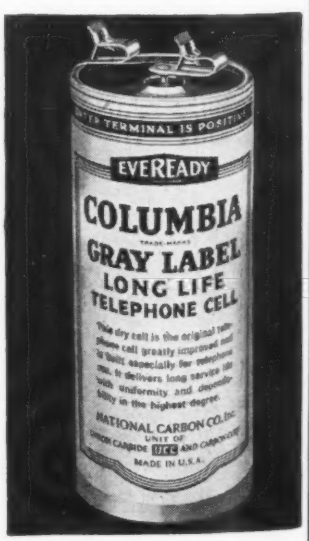

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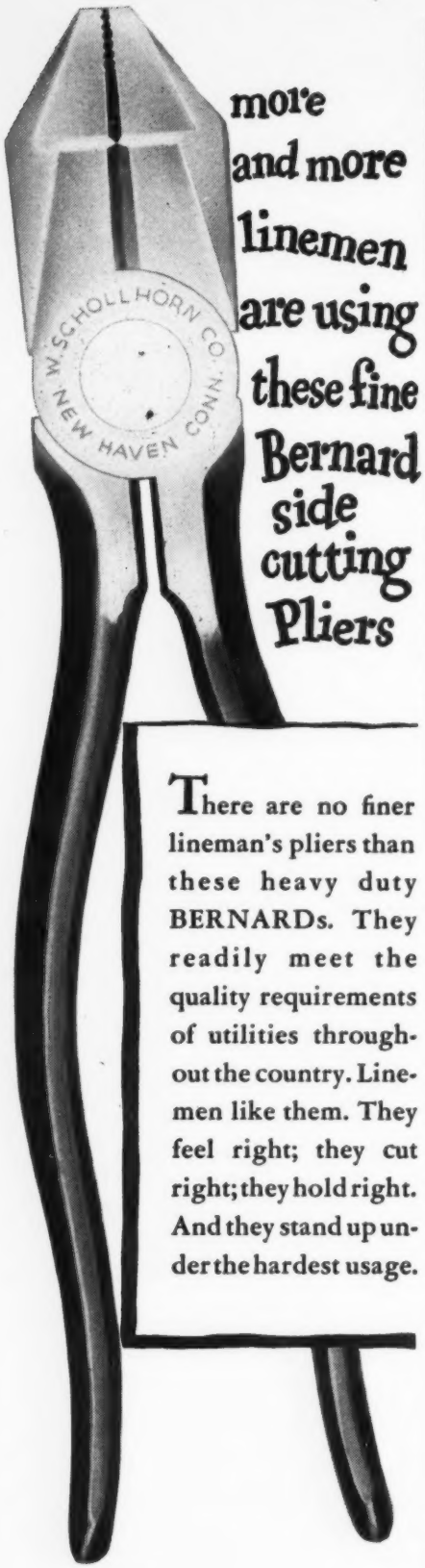

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phone conversations. This is Docket No. 6787. By oral testimony presented at a public hearing on the association's behalf by former President W. C. Henry, and by written brief prepared by our counsel, the position was taken that the use of voice recording devices should not be permitted unless some mechanism could be devised effectively to apprise telephone users that such devices were being employed. The importance of preserving inviolate the traditional intimacy and privacy of telephone conversation was vigorously stressed. The Bell System took a like position.

Last March the commission in a written opinion gave its blessing to the use of such devices in connection with interstate and foreign communication, stating that there was a real commercial and governmental need for them; but it withheld the issuance of a formal order requiring telephone companies to permit devices to be connected until certain engineering standards could be developed to safeguard the privacy of telephone conversation.

The withholding of a final order was a result in part at least of representations which had been urged by the telephone industry. . . .

Section 2 (b) (2) Exemption. It has been commonly assumed by Independent companies that the language written by Congress into Section 2 (b) (2) of the 1934 Communications Act immunizes them completely against jurisdiction of the FCC. It may come as a shock to these companies to be informed that the attorneys in the legal department of the FCC do not so regard the language. They regard it as merely carrying a limited exemption, not an absolute one. . . .

With respect to interstate toll service, however, the commission's lawyers are apparently of the opinion that the FCC has power to deal with quality of service, with rates, with discrimination, with establishment of through routes, with division of earnings, and with the provision of facilities to make interstate communication possible or more complete.

Of course, it would be irrational to suppose that the FCC in dealing with interstate toll communications would hold an Independent company entirely responsible for inadequate or inefficient service. The larger part of toll lines, as we all know, is owned by the Bell System companies. The most the FCC could hold an Independent company responsible for would be that part of the total service which the Independent company provides by its own lines or other facilities.

The commission has been so engrossed in performing its broader

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duties under the law, relating to radio broadcasting, that it has not had the time to trouble itself unduly with the service problems of the Independents. Interstate service complaints involving Independents have been relatively few. When they are received the commission writes the Independent company affected asking for a report, and at the same time advises our association.

There are 6,000 Independent companoies. With the FCC's limited staff, and with the necessity that it devote itself to the larger purposes for which it was created, it would be out of the question for it to make detailed investigations if any considerable number of service complaints involving Independent facilities used in assisting to provide interstate toll telephone service were received. In view of this fact it would seem likely that the commission would attempt to utilize the aid and cooperation of state commissions. The state bodies are familiar with local conditions and would doubtless welcome an opportunity to be of assistance to the federal commission upon these matters.

In discussing this rather important question of federal jurisdiction over Independent companies, it should also be added that it is understood to be the view at the FCC that when an Independent company engages in interstate telephone communication with the assistance of radio waves, it loses the benefit of such exemption as it had under Section 2(b) (2). An Independent company taking advantage of the ether for such purpose also becomes, like every other interstate radio license, subject to the radio provisions of Title III of the Communications Act.

The underlying philosophy of the commission seems to be based upon the premise that in the Communications Act, enacted in 1934, Congress intended to embrace the whole ambit of interstate commerce by wire or wireless, subject only to the exceptions written into the law in order to make proper allowance for certain situations not deemed important enough to require federal control in the national scheme of public regulation.

Mobile Radio Telephone Service. I would like to mention the subject of mobile telephone service because of its relative newness as well as because of its important implications to the future of Independent telephone companies.

Last July President Lumpkin appointed a Radio Service Committee, and charged it with the responsibility of keeping abreast of technical developments concerned with the use of radio in making telephone service more universally available. The committee was also given the duty of arranging for the presentation to be made by our association at a public hearing before the FCC beginning Oct. 27, to be referred to later.

At the Executives Conference of your association last April, E. H. B. Bartelink, Radio Engineer, General Telephone Corporation, in a carefully prepared address made the following statement:

"The public demand for mobile radio service is unmistakable and equipment to provide it is available. If the telephone companies plan to give the public telephone service where it needs it and when it needs it, it seems clear that they should rise to meet this challenge. If they don't, others will. If any telephone company is considering, 'Should we go into mobile radio?' the answer definitely is 'The time is NOW.' "

That advice was most timely. The time is in fact now. . . .

Coordination between the facilities and operations of the Bell companies with those of Independent companies, and *vice versa*, is going to be of tremendous importance if the public interest in mobile service is to be given

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due recognition. It is also going to be of major importance to the individual companies providing or participating in mobile service. The reasons for this were set out in "Certain Notes on Intercompany Participation for Mobile Telephone Service," which were the subject of a Bell-Independent conference last July and which were distributed to the association's membership by Member Letter 285. . . .

Every Independent company that has not already done so should study the "Notes" I have mentioned with the utmost care. While not necessarily binding on any company, they discuss the proposed terms and conditions under which mobile radio telephone service may be provided when more than one company is involved. After making up its mind in what manner it wishes to embark upon providing mobile service where the interests of another company may be affected, the keynote of every Independent company should and must be "coordination and cooperation."

In its Docket No. 6651 the FCC has assigned a hearing in Washington beginning Oct. 27 to consider the mounting clamor for mobile radio-telephone service. The increasing demand for frequencies by common carriers, taxicabs, stores, doctors, and others, has been commented upon by the commission. The hearing is destined to have very real interest to telephone companies as well as to other groups. Upon the basis of testimony to be presented, the commission will make noteworthy determinations and set policies which will have a far reaching effect upon the future development of mobile radio telephone service in this country. . . .

The importance of the proceeding demands that Independent telephone companies be represented. Your association is planning to present testimony at the Oct. 27 hearing for the purpose of showing, among other things, the extent to which Independent companies are already providing mobile radiotelephone service, the advantages to the public that flow from providing such service on a common carrier basis, and the conservation of the radio spectrum that will result from frequency assignments to telephone common carriers.

Importance of the State Associations. I would like to embrace this opportunity to express appreciation for the cooperation which has been given us by the state telephonte associations. There are 33 state associations, each performing a very useful service for its local membership. The most recently organized association is the Rocky Mountain Telephone Association which embraces in its membership Independent telephone companies operating in the Rocky Mountain area. . . .

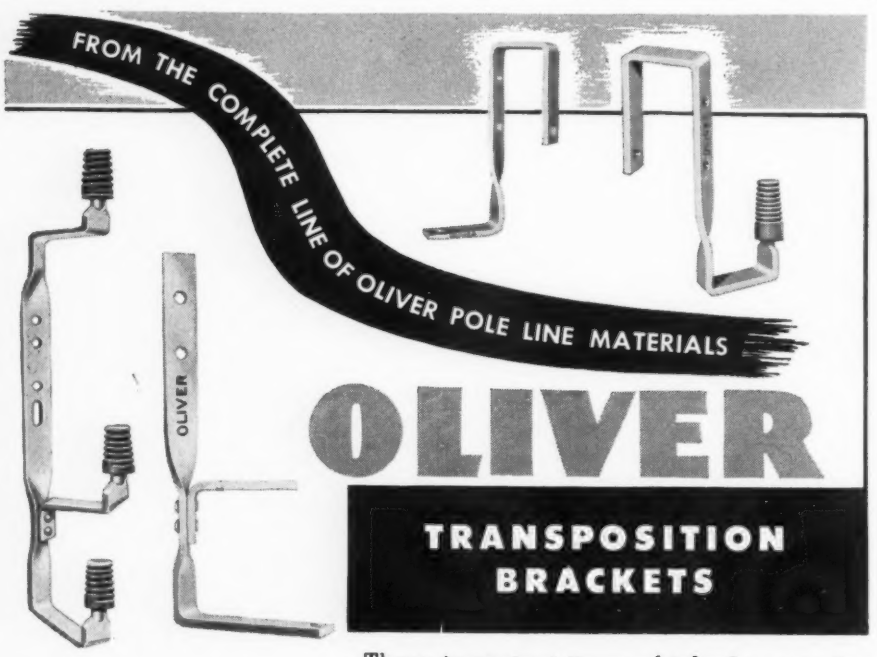
There has never been a time in the history of the telephone industry when there was more need than now for a close relationship between the national association and the state associations. We welcome the cooperation of the state groups in the consideration of matters of national concern, and we also welcome an opportunity to be of assistance to them in any way in which the national association can be of aid. We likewise welcome a continuing opportunity to learn to know the state organizations still better and to meet with them and discuss with their representatives face to face our mutual problems. The opportunities of the national and state organizations for service to the interests they represent, and for cooperation in the attainment of common goals, are many.

The Industry Journals. I should feel remiss if I failed to say a word about our trade journals. They have been functioning with consistently increasing usefulness to the Independent segment of the telephone industry. Their pages are filled with noteworthy articles and information bearing upon the operating and other problems of our business. The journals rank high among the trade publications of the country. They deserve the support of all telephone companies.

Many companies make the publications available not only to the executive, administrative, and supervisory personnel but also to employes down the line. This is a practice that has much merit. It benefits both the reader and the company, giving the worker an increased appreciation of the importance of doing his job well, and giving the company the benefit of the superior workmanship which comes from the added knowledge the worker acquires from his reading.

Relations With Bell System. It seems appropriate in this round-up report to refer to the pleasant relations between the Independent segment of the industry and the Bell System. There is within both groups recognition that the common objective of providing the best telephone service possible is more likely to be realized where there is mutual confidence and respect and where representatives of Independent and Bell companies feel free to call upon each other for consultation, advice, and the interchange of ideas. . . .

Our Independent Manufacturers and Suppliers. It is proper that something also should be said about the manufacturers and suppliers who do business with Independent telephone companies. Counted in the membership of our association are about 60 manufac-



These important items of telephone and telegraph line hardware are representative designs, based upon practical experience extending over many years. Complete sizes and details of these and other designs are given in Oliver Catalog 43.

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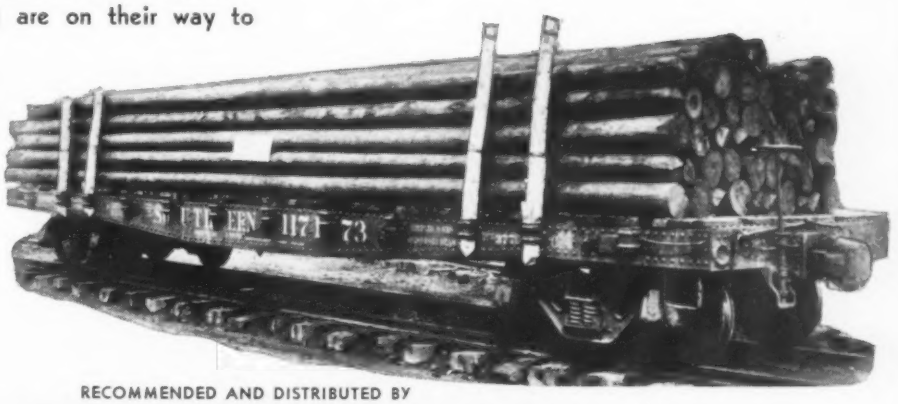
Vapor-Dried Poles

Telephone plant men enthusiastically endorsed the new Taylor-Colquitt "Vapor-Drying" process demonstrated at the U.S.I.T.A. convention. Today hundreds of these new vapor-dried Taylor-Colquitt poles are on their way to pole lines all over the country. You need these longer-lasting poles for your own lines. Order them today.



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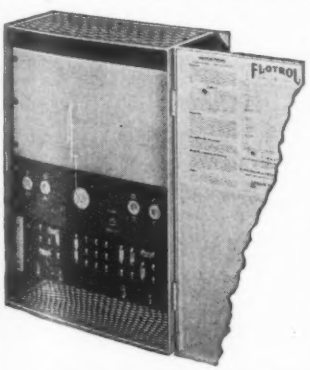
FOR ALL APPLICATIONS REQUIRING A DEPENDABLE SOURCE OF CONSTANT VOLTAGE DIRECT CURRENT



FLOTROL DOES EVERYTHING WITH 3 SIMPLE ELEMENTS AND NO MOVING OR EXPENDABLE PARTS

IT...

Compensates for variations in input voltage • Compensates for variation in loads • Delivers constant voltage to battery • Is entirely automatic • Is self-protecting on overloads • Delivers constant trickle charge at all times • Artificially cools rectifiers without moving parts.

The dual range FLOTROL chargers provide for operation on any one of five different input voltage ranges: 95-115V., 105-125V., 190-230 V., 200-240 V., and 210-250 V.

Keep Your Bells Ringing with SUB-CYCLE

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You'll do it too because Sub-cycle is noted for its dependable service in producing a powerful ringing current — delivering years of trouble-free service. Sub-cycle has won the distinction of being the . . .

CHOICE of the Telephone Industry

. . . and the Telephone Industry demands efficiency under the severest operating conditions. Sub-Cycle is successfully used by Railroads — Power Companies — Private Industry — Fire Alarm Systems — Telegraph Companies — Pipe Line Systems.

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turers, suppliers, sales organizations, and directory publishing firms, together with firms which provide various kinds of engineering services, and still others which publish the magazines commonly referred to as the trade press. Competitive pride among the respective classes of such companies produces healthy rivalries that inure to the benefit of telephone operating companies and of the people who pay for telephone service.

During the recent times of stress, under limitations imposed by the War Production Board the supply houses were compelled to devote their energy and productive facilities to the nation's needs for the sinews of war. For it must not be forgotten that back of the communication service which played so conspicuous a part in assisting in winning the war were manufacturing plants turning out switchboards and wire and cable and other items without which such service would not have been possible. . . .

Telephone Advertising Institute. In these days of difficulty in obtaining needed equipment and in satisfying public demand for telephone service it is important that subscribers be kept informed of telephone company problems and efforts being made to solve them. In doing this, advertising is of the utmost help.

Advertising is a form of public relations. It is a vital medium for making friends. Advertising and good public relations are like good manners—they must be practiced constantly in order to count.

These are among the reasons that might be mentioned why the Telephone Advertising Institute is so important to Independent telephone companies. The institute came into being several years ago as a result of a genuine long felt need by Independent companies for advertising counsel at moderate cost. . . .

It is encouraging to be able to report that the institute's services have won wide acceptance and that the institute bids fair to continue as a valuable adjunct to the Independent branch of the telephone industry.

Conclusion. That the future may at times present uncertainty and vexation there can scarcely be any doubt. But if it does, there is every reason in past experience to believe that the zeal and initiative which enabled us to forge ahead up to this time will assure the making of progress hereafter.

In conclusion, permit me to add that those who labor in the headquarters of your association in Washington have derived a great deal of pleasure from representing you. They look forward to the years ahead with a keen desire to increase their service and usefulness to a business activity so essential to the public weal as that of speeding the messages of mankind and womankind in the social and business life of the nation.

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Pressure Treatment of Southern Pine Poles, Crossarms, Conduit, Cover Plank, Ground Wire Moulding with No. 1 Creosote Oil or Pentachlorphenol carried in stock permitting prompt shipments of carload and less than carload orders.

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TREATING PLANT
EAST POINT, GA.

Mailing Address
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Atlanta, Ga.

Rural Service Report

(Continued from page 30)

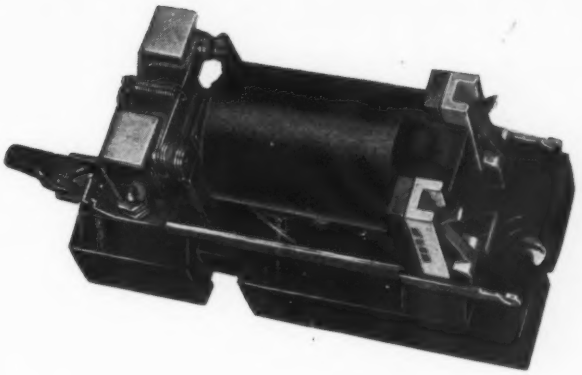
It is to be hoped that in adjusting their exchange rates, Bell System companies will establish their rural rates at a level which more nearly approaches the cost of rendering this service. The farmer may have been largely responsible for our low rural rates in years past, but that is not true today. If we who direct the policies of our telephone companies fail to secure adequate rates for rural service now, we alone are responsible. Farmers can and will pay proper rates for modern telephone service. If the forward march of rural telephones in your exchange territory is at a half-step cadence because of low rural exchange rates, the solution is to secure rates which will permit you to render adequate service and make reasonable rural line extensions.

Telephone companies operating in the central and eastern part of the United States are in general planning on converting their service to dial operation. This will at the same time provide a tremendous improvement in the quality of rural telephone service by improved signaling and ringing, and a reduction in the number of parties on a line. A change in type of service offers the opportunity for an increase in exchange rates without going through the requirements of a rate case, by filing an optional rate for the new service and canvassing the existing subscribers over the new service.

In the South and West, the low rural telephone saturation and the long distances to be covered place limitations on changes from a service which is predominantly code-ringing magneto. This does not, however, preclude offering an optional magneto rural line service with 10 parties or less on a line and with improved ringing. The opportunity of securing an increase in rural rates by offering such service on an optional basis and then converting present subscribers to this service, also is present. You can increase your rates for rural service by improving the grade of this class of

FAHNESTOCK
ELECTRIC COMPANY, INC.

Type 3-A
Arrester Relay



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WESTERN RAILROAD SUPPLY COMPANY

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Are you troubled with heavy induction from Rural Electrification Lines strung parallel or crossing your rural or toll lines?

While the No. 3-A Arrestor Relay does not eliminate humming and other noises, it will eliminate grounded arrestors due to this induction; it is standard equipment on all major telephone and telegraph systems.

Write for circular regarding the 3-A arrestor relay.

Eliminate **INSULATOR BREAKAGE FROM YOUR COST RECORDS**

● Do not tolerate the constant cost of replacing glass insulators. Stop it all with Western Union Rubber Insulators. Designed, tested and used by Western Union and fabricated by Continental, these insulators have demonstrated their trustworthy performance under the severest conditions. Their natural resilience guards them against the weakening effect of wind sway and they have the inherent strength to "take the load" on sharp angle turns. You'll be greatly interested in the complete story — write for the special descriptive bulletin.

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CONTINENTAL RUBBER WORKS

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service more easily now than in any other way.

Rural party line service can, in many cases, be enhanced in value to residence subscribers by grouping rural business telephones on separate lines where their location makes this possible. In other cases two or three rural business telephones can be grouped on a line and sold four-party line service with mileage, with a resultant improvement in service to all concerned.

Certainly our most pressing rural problem is to provide telephone service to all who desire it in our exchange areas. When this has been accomplished, there will be a mounting demand for an improvement in the quality of rural party line service. We have made a good start. But despite the fact that in the past two years we have doubled our normal rate of increase in rural customers, the job is only well started. The rural telephone problem in our industry is still demanding of us a solution.

In conclusion, permit me to say that your Rural Telephone Service Committee, while recognizing that already much has been done, will continue on the alert to assist in every way it can in bringing about a better understanding of the farm telephone situation and in bringing home to companies in our branch of the telephone industry the need for continued attention to the communication needs of farm population.

Our ultimate goal must be the providing of a telephone in every state to every farm that wants one when it wants it.

That we shall ultimately achieve this objective cannot be open to doubt if the effort is accompanied by the same perseverance that gave rise to Independent telephone companies more than 50 years ago, and that has been responsible for their progress over the intervening years.

Report on Status of Radio

(Continued from page 52)

this kind is definitely needed and the public should and will get it. There are definite cases where ownership by others than the telephone companies is a reasonable solution and where such owners can provide proper maintenance. There are, however, a large number of cases where the telephone companies are in an equally good or better position to furnish service than a private operator. It may be good to remember that if the telephone companies do not provide service in such cases, others will do so.

III Point-to-Point Radio Systems

Applications. There are three principal applications for point-to-point radio systems. Such systems may be used to give telephone service to isolated homes and business enterprises where it would be economically unfeasible to provide service by wire lines. These systems may also be used to give service to remote communities where a group of subscribers is located in a small area. In such cases it may be practical to interconnect them by means of a wire line leading to one terminal of a radio circuit which has its other termination connected to the existing wire network. As a rule, such circuits will probably be in the vhf band for quite a while to come.

The third application, and one which promises to be of great importance, is the use of radio circuits for toll service. Such circuits may be used to increase the number of toll circuits over existing routes, particularly where these extend over hazardous or difficult terrain or over water. They also may open new routes which would not be practicable for wire lines or where the cost of wire lines would be prohibitive, likewise, they could also play a major role in the development of rural service. In the case of a remote community, for instance, where both local and toll traffic increase, the next logical step would seem to be to install a community dial office, connected to the wire telephone system by means of a radio link, which might provide anywhere from one to about four channels. It is anticipated that nearly all of the single channel links will be operated on vhf while the multi-channel ones may be either vhf or microwaves. The former has the advantage that it does not require strict line-of-sight transmission, while the latter holds more possibilities for expansion of the number of channels; and the expectation is that both types will be needed and used.

It is well known that about 60 per cent of the area of the United States falls in the regions served by Independent telephone companies. In view of the fact that these areas include large regions which are very sparsely populated, it would seem that telephone service by means of point-to-point radio circuits might well account for a significant percentage of the future growth of the Independent industry. In line with this, it is to be expected that by far the majority of such systems will be of the general service type, although isolated systems may also occur.

CLEARS TROUBLE IN A HURRY

Averages $6.00 Saving Per Fault

This easy-to-use Wheatstone Bridge puts its finger on faults — locates grounds, crosses or opens — enables trouble-shooters to clear lines or cables in minimum time.

A recent survey among users indicates that this Test Set saves from 1 to 8 hours in locating faults, as compared with other methods. In terms of man-hour cost of trouble-shooting, it saves an average of $6.00 per fault. From this average figure, it appears that after locating 25 faults the instrument has saved enough to pay for itself. After its 25th location, this test set is actually earning money.

These savings, as well as the benefits of subscriber good-will are yours with the purchase of one of these Test Sets. If more information is required, write for Catalog E-53-441(1).

A FREE HANDBOOK explaining methods of using this Bridge for locating grounds, crosses, opens and other faults, will be sent on request. Write for Note Book EF-53-441(1), "Notes on Fault Location in Cables."

5430-A Type U Test Set

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The Mechanical Secretary

ANSWERS the telephone and delivers a message to the calling party.

RECORDS any message the calling party wishes to leave.

A combined telephone and recorder complete as shown. No other telephone or recording apparatus necessary at the subscriber's station.

No change in your circuits, equipment or operating procedure.

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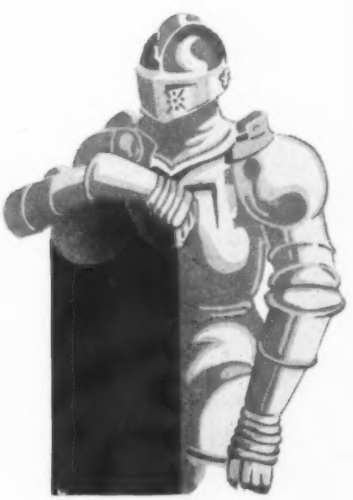
...are armored for longer service



Symbol of "Black Beauty's" armor-clad protection against termites, rot and fungi.

Deep, penetrating charges of top-grade creosote serve to armor-plate these tough, long-wearing "Black Beauty" poles against every form of nature's attacks. "Black Beauty" poles are processed by the patented "empty cell" method which draws out excess moisture and then fills each cell with preservatives. Specify "Black Beauty" when you order poles.

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Preparatory Work. As it is expected that nearly all point-to-point circuits will be used for "general service," the engineering and commercial considerations must be handled on a similar basis as those in mobile radio "general service" systems and again cover such items as proper matching to the two-wire system, proper signaling, intercompany coordination, and planning on a regional and in some respects national basis. By referring to the corresponding paragraph under mobile radio, it should be easy to select the applicable items.

Present Status. Early examples of point-to-point radio systems are the Cheyenne Wells experimental system where service is given to a number of remote farms outside Cheyenne Wells, Colo., and, secondly, the Port Clinton-Kelley Island radio link which provides full dial toll service to a community dial office on the island and which is operated by the Northern Ohio Telephone Co. Outside the United States a large number of such circuits are used as in Canada, where they provide telephone service to many remote locations.

If telephone service is to be extended to a large number of homes and communities in the rural areas by means of radio circuits, it is clear that the cost of such equipment must be made very low and this, in turn, requires the utmost in simplicity in the equipment used. In at least one of the Independent telephone groups, the General Telephone System, development work on such a system has been in progress for some time; and its completion is expected in a matter of weeks. This equipment operates in the vhf band and uses modified urban-mobile land-station equipment. The system is expected to permit ringdown toll operation, later to be extended into two-way dial toll service, and should provide subscriber operation on a CB or full dial basis using either coded or harmonic ringing. The cost is expected to be below $3,500 for one complete radio link and, as compared to new wire line routes, it would therefore promise savings for any circuits over approximately 10 miles.

For toll circuits carrying larger volumes of traffic, the economic considerations reported in an earlier USITA meeting still seem to indicate that a three or four-channel system should permit appreciable savings as compared to wire lines. To test these systems, General Telephone placed development contracts for one four-channel vfh and one four-channel microwave link. These systems are rapidly nearing completion and it is hoped that in a subsequent USITA meeting a report on the operating results with these systems can be presented. For really large volumes of traffic, the multichannel microwave systems still promise attractive operating figures, but it is doubted that any large number of such circuits will be needed in the Independent segment of the industry within the United States.

IV Federal Communications Commission

It would seem that radio is a natural tool for the telephone companies for extending the service, which they now render by means of a wire network, to moving vehicles and to remote homes and communities. As was mentioned, the Independent telephone companies have the responsibility of providing service to a major part of the rural United States; and the conditions in these areas are such that the use of radio may be indispensable in many cases if any large scale extensions of service are to be obtained.

The FCC holds the key which can unlock the door leading to these future developments; it has full control over the question whether or not large numbers of people who are now isolated will be able to get telephone service in the future. Unfortunately, the FCC has thus far shown very little indication that they recognize the pressing need for frequencies on the part of the telephone companies, and it seems difficult to shake the impression that some others whose needs do not seem more urgent than those of the telephone companies have received more consideration. In this respect the commission's latest decision on frequency allocations was definitely disappointing.

Judging from many discussions with members of the telephone industry, it seems very clear that the telephone companies do not seek a monopoly in the field of radio communications. They are not attempting to obtain any exclusion of others from the field of radio-telephony; neither, however, do they welcome the prospect of having any regulatory body exterminate their future possibilities in those fields of radio which form a logical extension of the services which they now perform.

While proposing to assign three channels to the telephone companies for urban mobile, short-haul toll and rural service, the FCC has proposed to assign 12 full channels to television. This seems sufficient to provide for a full fledged development of the industry. It should be remembered, however, that definite proof still is needed that an industry of this size is needed after the "newness" has worn off or that it can be supported on this scale. This situation is in sharp contrast to the assignments to the telephone industry where the present known demand

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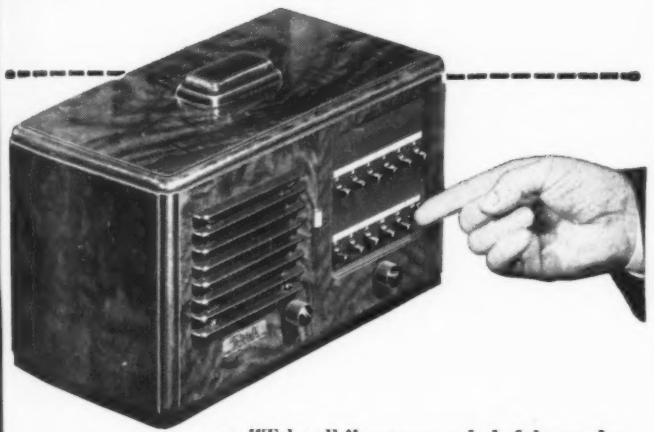
Teletalk offers supplementary help in locating personnel



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"Teletalk" is available in a wide range of models to meet the needs of businesses, large or small. The tone is clear and free from hum or buzz. It is a quality product that gives excellent performance and outstanding service.

In many cases, you'll find that "Teletalk" is an excellent supplementing service that can be recommended with confidence.

For helpful suggestions and full information, send for the latest "Teletalk" catalog fully describing all models. Send your inquiry to Webster Electric Company, Racine, Wisconsin.

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RACINE WISCONSIN

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GOING UNDERGROUND?

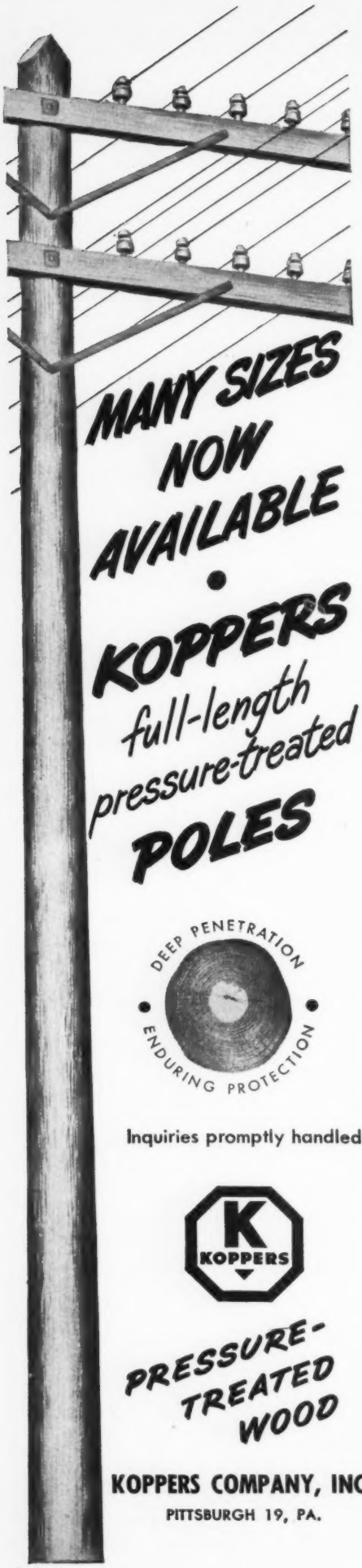
With Jaques portable trencher you can cut ordinary trench digging costs amazingly. The usual present day cost runs 20 to 25 cents per foot or $1,250 for 5,000 feet. Jaques portable trencher digs 2 feet of trench (24" deep) per minute and is priced at

$598.50 f.o.b.

Displayed for the first time at the recent U.S.I.T.A. Convention in Chicago, this remarkable implement proved very popular. A power saw is also available as an attachment to the Jaques trench digger. Inquiries invited.

WYOMING VALLEY EQUIPMENT COMPANY

45 Owen Street Forty Fort, Pennsylvania



indicates a need for a frequency assignment approximately five to 10 times larger than the present assignment in the smaller cities and rural areas and one approximately 30 times larger in the urban areas.

In the matter of mobile frequencies, the FCC ordered a hearing for Oct. 27, 1946 (recently postponed to Nov. 24, 1947). The USITA, the General Telephone Corp., and the Bell System will definitely be represented to explain the needs of the telephone industry; and again it would seem in order and highly desirable that any other independent companies who realize the importance of radio systems in their operations, make a separate appearance at this hearing and explain their needs. It is to be hoped that the FCC will give more recognition to the needs of public utilities and to the rights which these utilities should have as services operating under the direct control of the public.

One particular question which the FCC has put on the agenda, is worded as follows:

"To determine the necessity and propriety of permitting, *or requiring*, the interconnection of land line facilities of general communication common carriers with the radio facilities of other common carrier competing in the same area in the general mobile service."

An affirmative decision of the FCC in this question would not only bring in all the foreign attachment problems, but it would go much farther than that.

If a private concern enters the field of providing any kind of telephone service and should want a tie-in to the public telephone network, it would naturally do so when, where, and for as long as it appears profitable to do so. If a tie-in were permitted, such a private enterprise would have no correlated responsibility to give service to all customers; it may select just one favorable group, location, or route; it would be able to set its own rate and pick only favorable cases; furthermore, it may discontinue service at will if it should prove unprofitable. Such an enterprise could then pick the "cream of the crop" and leave the telephone companies worrying about the economically unprofitable operations.

If such tie-ins are permitted, a private enterprise might make profits, while its very operations might force the telephone companies to operate at a loss and to ask for correction in the form of a rate increase. The public would thus be forced to pay for the higher resulting cost of the telephone service, while the telephone companies might even be accused of inefficient operation when they submit their request for increased rates. Such conditions, representing a competition in which one party is given unlimited freedom of action while the other is subjected to a large number of restrictions, can hardly be called either fair or in the best interest of the public service and, for this reason, it is concluded that tie-ins of isolated radio systems not owned by the telephone companies should not be permitted.

It would seem that the importance of this question can hardly be given enough emphasis and that it might be in order for Independent telephone companies to show up in *quantity* at the hearing to protest any such action.

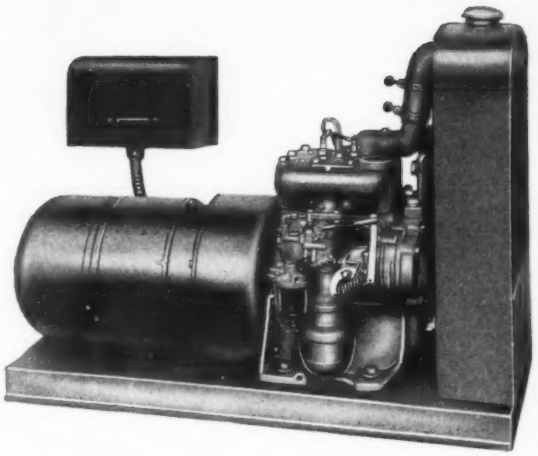
Tariff and Tariff Filings

(Continued from page 56)

ness rate ought closely to approach the two-party local business rate, and the rural residence rate ought to be not less than the local four-party residence rate.

In exchanges having comparatively long rural lines, it may also be desirable to provide rural rate zones, so that rural customers living a considerable distance away from the local base rate area will pay a somewhat higher rate than those living fairly close to the local base rate area.

In general, what I have said so far applies to rates for magneto service in exchanges falling in the lowest group. The overwhelming majority of the smaller exchanges have magneto service, and when such exchanges are provided with dial (or possibly common battery manual) service, it seems entirely proper that a somewhat higher rate schedule should be applied than is established for magneto service. I think there are several valid reasons for this. First of all, dial service is becoming very popular, but dial equipment costs are extremely high, so that a community which demands dial service should expect to pay more for such service than a community which is satisfied with the magneto type of service which is usually provided in the smaller exchanges. Also, practically all magneto exchanges are rendering a satisfactory grade of service and a good many have comparatively new magneto equipment; and in such cases it would obviously be out of the question to take the loss which would be occasioned by displacing it when it has many remaining years of useful and satisfactory life. Furthermore, even if it were decided to convert every small magneto exchange to dial operation at the earliest possible date, it would be



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MAYBE YOU OUGHT TO INSTALL USS AMERTEL 135

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Not only will your customers hear better, but you will save money on installation costs, for Amertel 135 can be put up in spans *double* the length of the standard BB wire. Some companies report savings as high as 30% of construction costs.

When Amertel is used with PFT Preformed Armor Rods, further protection is offered against breaks. Armor rods dampen vibration effectively . . . protect the wire at the support points . . . reduce outages caused by wind and sleet. Write for complete information about U·S·S Amertel and PFT Armor Rods.

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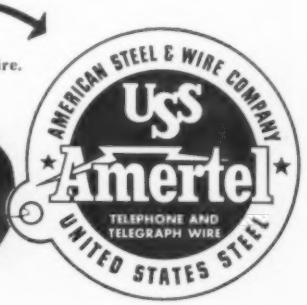
It is your assurance of highest quality wire.



KEY TO LONG-SPAN LOW-COST LINES

SAVE MATERIALS!

Long spans make possible net saving of 10 to 20 pole structures per mile.

SAVE LABOR!

Fewer holes to dig; less material to be handled, installed and connected.

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Fewer poles mean less maintenance. High strength reduces possibility of breaks.

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of Manual No. 203! It is filled with interesting and factual information on how to build better rural lines at lower cost per mile.

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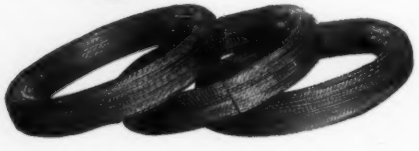

impossible for the manufacturers to furnish the equipment and for telephone companies to obtain the manpower necessary to make such wholesale conversions at an early date.

Accordingly there must continue to be a substantial number of magneto exchanges for a good many years to come, and it seems that a reasonable differential between magneto service and dial (or common battery manual) service in exchanges of comparable size is the most satisfactory way to handle conversions in an orderly manner. Where a differential between these types of service is used, the most customary figure for tariffs which I have examined is around 25 cents per month. While I do not say that this is the exact amount which should be used, I think that an amount should be used which will be sufficient to permit an orderly conversion program and provide a reasonable return on the investment.

What I have said about rate differentials so far may be considered as applicable to exchanges falling within the lowest group or classification, and on the basis which I previously mentioned would apply to exchanges of 200 telephones or less.

After establishing a schedule with reasonable differentials for the smallest exchanges, it then becomes comparatively simple to set up rates for the exchanges falling within the larger groups.

Based upon the over-all financial requirements, and after the size of the groups has been determined, each succeeding group might be considered as requiring somewhere between 25 and 50 cents additional on one-party business service. Also, in order to get a somewhat higher differential between one and two-party business rates in the larger exchanges than I have suggested for the small exchanges, it may be desirable not to step up the two-party business rate or the rural business rate quite as rapidly as the one-party business rate.

In establishing local residence rates for the higher groups, one-party residence rates might be advanced for each group within a range of perhaps 15 to 25 cents. Here again, in order to maintain four-party residence rates at as low a figure as is consistent with financial requirements, this class of service might be stepped up by a somewhat smaller amount for each group, and rural residence rates might follow a similar trend.

Where there is a wide variation in the size of exchanges, it is sometimes desirable to use chart paper to set up the schedules and differentials in graphic form, as this will often help in deciding whether the relationship between the various groups and classes of service within the groups appear to be reasonable.

In concluding these comments, I want to emphasize that they are not to be taken too literally, because they represent only my own views and do not give effect to every factor which may require consideration.

I think the rate-making problem is more important now than it has ever been before; and the principal purpose of these comments is to suggest at least a few of the points which should be considered in setting up new rate schedules, and to stimulate constructive thought on this subject.

Collection, Employe Training

(Continued from page 60)

progressively eliminate manual operation in both local and toll services, the burden of explanation and adjustment of difficulties will fall to a great extent upon commercial representatives, cashiers and information clerks. They will be the remaining human links between the communications machine and the subscriber. Our public relations will depend upon their efficiency, ability and tact.

It is unfortunate that the nearer we approach the ultimate of complete mechanization the farther away we get from our customers. We need to train every commercial employe to function dually as a salesman of our policies and as an interpreter of our methods. That is much easier to say than to accomplish but the necessity cannot be avoided. The average commercial applicant has either had business training in high school or in business college. Generally speaking, this is sufficient for our beginning requirements. It is then up to us to teach them the telephone business.

But as I have already discussed in regard to collections, we cannot just mail bulletins to employes and let it go at that. We must give them continuous supervision, training and assistance.

Then, as I have said, there must be definite training in courtesy, friendliness, and salesmanship. By the use of training courses, the use of voice recording, by continually keeping the importance of the telephone business uppermost in their minds, we must bring all of our commercial people, in small offices particularly, to realize that each

"THE FINEST TELEPHONE EQUIPMENT IN AMERICA USES RAY-O-VAC TELEPHONE BATTERIES!"

RAY-O-VAC TELEPHONE BATTERIES ARE USED IN EQUIPMENT MANUFACTURED BY THESE WELL KNOWN COMPANIES:

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TELEPHONE BATTERIES

RAY-O-VAC COMPANY, MADISON 3, WIS.

THE NEW TURNER

Low Pressure
FIRE POT

NEW IN PRINCIPLE, DESIGN, AND PERFORMANCE

WITH "CARBURETOR CONTROL"

Features the exclusive *adjustable* air syphoning tube which enables the pot to operate at a pressure of only 20 to 30 pounds as compared with 40 to 60 pounds for old style models. Tube can be moved back and forth in the burner . . . permits instant balancing of the gas and air mixture by actually syphoning air from the outside to meet widely varying fuel and job conditions. Important because it means more perfect combustion . . . a more intense flame, concentrated at the proper point and not distributed over the entire coil . . . eliminates carbonization . . . insures longer coil life!

Turner No. 275 Fire Pot will melt 20 pounds of lead in 3 minutes; has fuel capacity of 9 pints; takes 6″ melting pot.

COMPARE THESE FEATURES

Flame control valve adjusts the flame to any desired heat . . . is complete with stainless steel orifice cleaner needle which automatically cleans the orifice thereby eliminating need for separate cleaner wire.

★

Construction assembly permits quick, easy accessibility and cleaning . . . windshield, top plate, and bail handle are one unit, and can be lifted from tank in five seconds by loosening one wing nut. This construction also provides the sturdy support necessary to carry a heavily loaded pot of lead, and is far superior to the old style upright posts.

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Burner coil is made of extra-heavy seamless steel tubing . . . is protected by sturdy outer jacket that maintains heat without overheating . . . can be generated and used in heavy wind.

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Tank is of unusually strong construction . . . has heavy protector ring on bottom, large funnel-filler cup, new style wide-seat filler plug and protective dust cap, large drip cup and an overflow cup, heavy blow-proof brass pump.

Made by the manufacturers of the nationally known line of Turner Blow Torches

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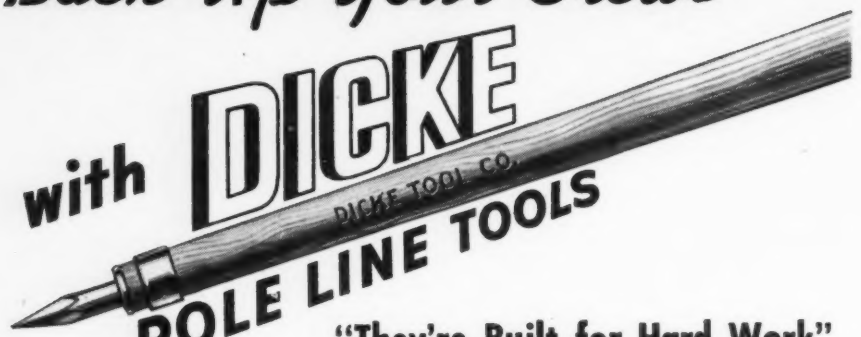
Back Up Your Crews with DICKE POLE LINE TOOLS



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POLE SUPPORTS

Pole line crews pin their faith on Dicke tools — depend on their safe, sure strength in the pinches. There's a tough, reliable Dicke pole line tool for every construction need — for every job where danger lurks. Give your crews the extra safety factor of these Dicke tools:

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Yes, a little strip of Gold Seal goes a long way. It's strong, sticks right, and its dielectric strength is high, so a little does the job. It won't dry out or become gooey . . . never peels, ravels, or smears hands.

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JENKINS Gold Seal Tapes
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of them is the telephone company to the people whom he contacts.

Finally, above and beyond what I have indicated, is the necessity for advanced training for executive and administrative positions. The ultimate objectives of our employe training plan should also embrace management.

The United States Army and Navy managed to take several millions of green young men and train them to carry on the highly complicated, diversely technical business of winning a global war. We can do a similar job of education, in fact we must if we intend to survive as Independent operators. The lead, however, must come from the top, from the larger Independent companies and from this association.

One consideration that cannot be overlooked in any discussion of employe training is the attitude of labor unions. Most of the agreements recently executed have been based on the idea that equal length of service merits equal reward. Unless he is discharged altogether, the employe who knows little and cares less, rides along on a graduated wage scale, reaching the top rate as soon as the employe who burns the midnight oil to improve his knowledge of the business.

That is not only death to ambition in our business but it is one of the worst menaces to what we cherish as the American way of life and living in every industry in this country. We must do all that we can to fight that tendency. The new employe who proves to be incapable of learning our ways must be discovered and laid off while he is still in the probationary period. It will be of little use to offer employes the path to training, education and success, if we do not also offer them the inducement to tread that arduous path. If union ideas and union agreements stand in the way of that fundamental Americanism, then we must fight those ideas and work to change those agreements.

In conclusion, it is my suggestion that each Independent company make every effort to improve its own training program if it has one or, if not, to give serious consideration to the establishment of such a plan. In addition, I urge that this association thoroughly study this subject and evolve a complete program of employe training and education for our industry. It is one of the most important problems before us today.

V V

>>Ship-to-shore radio, now a vital marine function, was pioneered by the United States Coast Guard in 1904.

Traffic, Past, Present, Future

(Continued from page 70)

atmosphere of equipment and personnel shortages and know little or nothing about how the traffic department functions in normal times.

It is pleasant to look back over 50 years of progress as typified by our Golden Jubilee Convention. But, we can not live in the past, if we desire to give telephone service in the future. We will witness more changes in our operating procedures and techniques in the next five years than have occurred in the past 50 years, so keep up to date with these new developments. They are going to affect your life and your job and mine, in many ways.

Selection of Employes

(Continued from page 78)

rejected or referred to another department for work more compatible with the applicant's abilities and talents. *Fig. 2* compares a rejected operator applicant with the composite profile of operators.

It is hoped, that by following through with observations of the job performance of the applicants accepted for operators positions, the experimental data obtained from Lexington and Muskegon will permit further refinements as well as the detection of certain differences in the characteristics of local and toll operators. Results obtained thus far indicate that certain differences do exist although the frequencies are yet insufficient to be statistically determinate.

The job placement technique developed through the research discussed above has been applied similarly to determine characteristics of qualifications common to the job content of several other job classifications such as, lineman, cable splicer, switchman, engineers, supervisory positions and various others. The composite profiles for traffic supervisors, cable splicers, lineman and switchman are shown in *Figs. 3, 4, 5 and 6*, respectively.

With the determination of pattern scores and profiles for several job classifications, it has been possible also to apply the technique in the selection of employes for special training such

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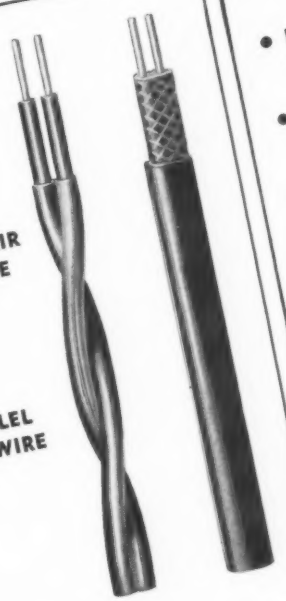

TWISTED PAIR DROP WIRE

PARALLEL DROP WIRE

- BEST WEATHERING CHARACTERISTICS IN ALL CLIMATES
- POSITIVE RESISTANCE TO OIL AND CHEMICALS
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- FLEXIBILITY AT ALL TEMPERATURES
- GREATER ABRASION RESISTANCE
- VERY HIGH TENSILE STRENGTH

Samples of Neoprene drop and bridle wires are available —wire or write today.

OUTSIDE WIRES—Drop, bridle and tree—sizes 14 to 22—B&S, bronze, copperweld, copper and iron conductors, rubber insulated, cotton braided.

INSIDE WIRES—Sizes 19 to 22—B&S with rubber insulation, cotton braided or plastic insulated.

Plastic insulaton is particularly adapted for inside jumper and duct wires, has bright colors for identification, smaller diameters, is flame and moisture proof, offers high resistance to abrasion and will not support fungus growth.

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Build LINE SECURITY with CHANCE ANCHORS

All-Steel Screw Anchors are Double-Welded for GREATER STRENGTH!

For greater strength . . . easier installation . . . and increased holding power . . . the thin, fast-cutting blades on Chance No-Wrench Screw Anchors are separately forged, then *double-welded* to the rod. With the helix correctly and accurately pitched, tapered, and sharpened, these all-steel anchors bite into the ground with a minimum of effort and earth disturbance, and provide maximum strength and holding power. The forged steel Tripleye rod admits a bar for use as a "wrench", and the full-rounded eye gives protection against kinking for one, two, or three guy strands.

WRENCH TYPE SCREW ANCHOR

This all-steel anchor permits use of a smaller anchor rod since installation strain is applied directly to the hub of the anchor instead of the eye of the rod.

CHANCE SWAMP ANCHOR

Of cast, malleable iron, with sharpened cutting edges that bite through roots, this anchor is invaluable for installations in swamps, bogs, marshes or quicksand.

How much will an anchor HOLD?

Chance engineers have developed a new formula for determining the type and kind of anchor to use for every guying condition. Your copy is ready and will be sent upon request.

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as cable splicing, switchman, engineers and other job classifications. Thus far, the technique has proven quite successful in selecting men for specialized training who did respond readily when they were subjected to such training. Incidentally, this application of the job placement technique to other job classifications and purposes mentioned above satisfies the sixth and final step in the definition of "scientific method" which read, "Use of the fruit of experience and knowledge thus obtained, out of which invariably arises new curiosities, and the process of truth-finding starts anew."

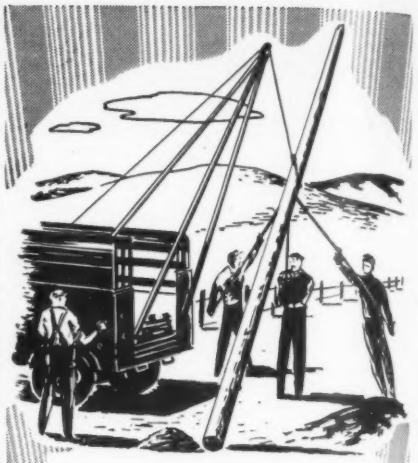
In summation it must be emphasized that the technique as developed in this instance is not intended to be a comprehensive answer to the problem of employe selection nor is it intended to specify the type of measuring devices to be used. Rather, it is offered merely as a contribution to the art for whatever it may be worth to others. Then too, it is readily admitted that many human variables are as yet unmeasured for which, other methods and techniques await development through research.

It also is hoped that it will serve to place emphasis on the necessity for following the "scientific method" as rigidly as possible and maintaining at all times the "scientific attitude" in order that human relations may indeed become a science in fact and not fiction.

In closing it might not be amiss to deplore the enormous waste incurred by industry for not availing itself of scientific methods and attitudes in the placement of personnel, that is, matching the employe with the job. It is very strange that industry, in general, has readily authorized the expenditures of large sums of money to develop mechanical perfection but has largely ignored the human equation. Industry's success in obtaining competent employes and placing them in jobs commensurate with their qualifications is a vital factor in business operations, costs, and profits. It is necessary, therefore, for industry to recognize the obligations to itself by effectuating a renaissance, so to speak, in the utilization of the human equation so vital to the success and perpetuity of industry.

Tip to Salesmen

A salesman named Marmaduke Hall
Had plenty of stuff on the ball.
By using his head,
He could linger in bed,
And sell via long distance call.



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Today, alert buyers in increasing numbers specify Chapman "Penta" Preservative treatment for wooden line materials. That's because this modern wood preservative has proved so satisfactory on *all* counts.

"Penta" Preservative, by actual test, provides unsurpassed protection against rot and insect damage.

Wood treated with "Penta" Preservative is practically odorless and clean to handle. That makes it favored by installation and maintenance crews.

Finally, regular treating plant methods and equipment are used to apply "Penta" Preservative. Most progressive plants use it now — all can get it for you quickly.

The complete, interesting story on Chapman "Penta" Preservative is yours for the asking. Write for details today.

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"Penta" Preservative contains *Pentachlorphenol*, a product of *The Dow Chemical Company*.

Implications of "Original Cost"

(Continued from page 86)

high and money costs low, the utility gets the low money costs applied not to the present high property costs (value) but to historical costs; thus the utility cannot earn enough in good times to keep something for a rainy day. Then when times are bad and money costs high, the utility would get a high money cost applied to historical cost of property. This probably would justify a rate increase, but what good is a rate increase if times are hard and the customers do not have the ability to pay it?

Further, the true reproduction cost of money principle does not provide for the recoupment of the costs necessary to refund previously outstanding securities. Such a practice discourages economical refunding.

Maybe I can clarify this with an example. In certain cases, fair return has been determined by allowing cost of servicing bonds and preferred stock at current effective rates (incidentally, costs of refinancing should be considered) to which is added an allowance for common stock equity. In the case of common stock equity the usual practice, if you can say there is a usual practice, is to determine market ratios of common stocks — in other words, a ratio of earnings and dividends to the market value of common stock. This ratio then, if applied to the present common capitalization, results in the application of market ratios to book capitalization which penalizes the equity investor. In other words, if the market value of a stock was, say, $150 selling at, say, 12½ times earnings, the market would indicate a requirement of an 8 per cent return to maintain the stock at that price. If the book value of the common stock (common stock capital plus surplus) was, say, $100 and the 8 per cent ratio was applied to that amount, it would obviously produce a smaller requirement. Thus, an 8 per cent return on $150 is $12 and 8 per cent return on $100 is $8.00 or a reduction of $4.00. While such a procedure would tend to insure the ability of the company to sell common stock equity at book value, it seems to me it definitely eliminates the possibility of market appreciation. It is argued that such procedure gives stability to the security and puts it in an investment rather than speculative class.

FOR YOUR CONSIDERATION

STEEL CROSSARM BRACES
(HOT GALVANIZED)

† No. 8020 Plain Style

No. 6620 Ribbed Style

All Hubbard Flat Steel Crossarm Braces are now made with rounded corners. The elimination of sharp cornered braces will be welcome news to Linemen. Mounting holes are punched for a ½-inch lag screw at the pole end and a ⅝-inch bolt at the arm end. Ribbed Style Braces afford approximately 25% more strength in compression. Both ends of Ribbed Braces have been left flat for a sufficient length so that the rib does not interfere with the crossarm if mounted inside.

†A. T. & T. Co. STD.

ALSO—POLE LINE HARDWARE FOR ALL TELEPHONE CONSTRUCTION REQUIREMENTS

ANCHORS, PLATE AND SCREW • BRACES • BRACKETS, POLE, CORNER AND HOUSE • CABLE SUSPENSION HARDWARE • CARRIAGE BOLTS CROSS ARM BOLTS • CABLE RACKS • CABLE SHIELDS • DRIVE HOOKS EXTENSION ARMS • EYE BOLTS-HUBEYE • GRADE CLAMPS • GUY CLAMPS • GROUND RODS • GUYING ACCESSORIES • GUY PROTECTORS GUY HOOKS • HUBEYE NUTS • HUBEYE BOLTS • LAG SCREWS MESSENGER DEAD ENDS • MACHINE BOLTS • MANHOLE LADDERS POLE SEATS • POLE BALCONIES • PINS • POLE STRUTS • POLE STEPS STUBBING BANDS • STRAIN PLATES • STORM GUY ATTACHMENTS SIDE-WALK GUYS • SPAN CLAMPS • TRANSPOSITION BRACKETS

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ASPLUNDH
ECONOMICAL LINE CLEARING

"We believe it is always a good practice for operating companies to procure the services of a tree expert company to handle line clearing problems." . . .

from The Plant Man's Note Book by Ray Blain

Telephony, July 12, 1947

★

ASPLUNDH TREE EXPERT COMPANY

JENKINTOWN, PA.

Chicago, Ill. **Binghamton, N. Y.**
Omaha, Nebr. **Alexandria, Va.**
Oklahoma City, Okla. **Silver Springs, Md.**
Waco, Texas **Charlotte, N. C.**
Columbus, O. **Clearwater, Fla.**
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LINE CLEARING

POLES

DURING the shortage of Cedar poles, many telephone companies have found the following species highly satisfactory:

Douglas Fir, Western Larch, Lodgepole Pine. When properly treated they will satisfy you and will resist rot for many years. We recommend full length treatment with Pentachlorophenol by hot and cold non-pressure method. The poles do not bleed. They remain dry and clean and they are rot resistant. We can furnish them promptly. Write or wire us.

We can supply a limited quantity of short telephone poles, 16 feet to 25 feet in Western Red Cedar.

CURTIS POLE COMPANY
P.O. BOX 613
HELENA, MONTANA

Even this may be true, but there still is no guarantee that a price equal to book value will be maintained if the general economy of the territory served makes it impossible to earn the required return.

Nelson Lee Smith, in a recent address, expressed the thought that ". . . simplification of the process of rate base determination is likely to result in a reduction of the disproportionate emphasis heretofore placed on that element and in appropriately greater attention to the equally important factor in the rate equation, the rate of return."

He says further that ". . . it is important for us all to keep in mind the fact that the consumer interest is not limited simply to the lowest rates that can possibly be secured; reasonably satisfactory service is equally important."

I consider the above statements to be extremely significant because I believe that the net investment rule can be made to work fairly, if proper consideration is given to the rate of return. Whether it attains a satisfactory result for everyone concerned depends not on the exact application of a formula but on the manner of its application. This means that regulatory commissions will be more directly responsible for the result than ever before and that they will need to measure up to the great responsibilities they have assumed or see the pendulum reverse itself. It also means that if utility management is prepared to cooperate in searching for the answers to these problems, it is reasonable to assume that a solution will be found that is fair to the public, the customer, labor, management, and the investor. That, I believe, is what we are striving for.

V V

Telephones in Rome Break Records

Rome's war-shattered international telephone lines are carrying more calls now than they did before Italy got into the war.

An official report has disclosed that the 58 circuits thus far put back into operation handled 1,726,800 calls from July 1, 1946, to June 30, 1947, compared with 1,500,642 over 122 circuits operating during the corresponding period of 1939-1940.

This was exclusive of conversations over radio-telephone circuits such as those linking Italy with the United States, Argentina, Brazil and other transocean countries.

Italy now has telephonic communication with 26 countries—among them

Leich Magneto Handset Telephones

(Prompt Shipment)

No. 86C

The most practical complete telephone for rural homes and farms.

No. 70C

The ideal for stores and offices in the magneto town.

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TELEPHONE PRUNERS

This powerful pruner cuts closer, is stronger than any other similar tool on the market. Can be operated in close tangled growth; cutting easily and cleanly branches up to 1½" in diameter. No trouble with spring breakage.

Here is the only pruner with the famous Seymour Smith "Center Cut" construction; safety catch to lock blade closed; one piece tempered tool steel blade; reinforced hook; extra long life spring; ball bearing pulley; highest quality chain; unbreakable iron head.

Designed by experts for experts: demanded by public utility companies everywhere, it will pay you to write for literature and prices.

SEYMOUR SMITH & SON, Inc.
900F Main Street
OAKVILLE, CONNECTICUT

Egypt, the Lebanese Republic, Palestine and Russia—and negotiations are in progress for connections with Yugoslavia, as well as for additional circuits with France, England, Switzerland, the Netherlands and Russia.

V V

Robot Lets Everyone In on the Call

A robot telephone secretary, which receives telephone calls and brings forth the caller's voice loudly enough for a room full of people to hear, was announced Sept. 30 by Assen Jordanoff, president of the Jordanoff Corp. of New York. He said he got the idea once when he wanted to listen to a telephone conversation while he was busy with both hands.

The secretary is a console, 2½ ft. high and a foot square. When a telephone rings, someone lifts the receiver and lays it face down in a rubber cup on the console. The voice of the caller comes out of the console as loudly as desired.

The listener merely talks to the robot. His words are carried to the telephone transmitter just as if he had his lips close to the talking end. The robot involves a score of vacuum tubes which serve as pickups and amplifiers.

V V

Stock, Bond Sale to Finance North Carolina Improvements

The North Carolina Utilities Commission on Oct. 6 issued an order permitting the Central Telephone Co. of Charlottesville, Va., to sell $800,000 of first mortgage and collateral lien sinking fund bonds and 65,000 shares of common stock at $10 each in order that it may finance improvements and extension of its North Carolina services.

The company thus far this year has spent approximately $300,000 in building exchanges, toll lines and in various other improvements. A similar amount is expected to be spent for the same purposes before the end of the year, it is said.

The company's North Carolina headquarters are at Mount Airy.

V V

Southern Bell to Serve Orlando, Fla., Exchange

The Southern Bell Telephone & Telegraph Co. has been authorized to establish an exchange service area for its Orlando, Fla., exchange, including the area formerly served by the Farmers Telephone Co.

Authority was granted Oct. 6 by the Florida Railroad & Public Utilities

For cable testing use AIRCO DRY NITROGEN

Years of experience with many important telephone systems, have proved the effectiveness of AIRCO Dry Nitrogen for testing and maintenance of cable under pressure. Quick deliveries are assured from your nearby Airco office. Please return empty cylinders promptly.

HERE ARE OTHER AIRCO PRODUCTS THAT MAY INTEREST YOU

Oxygen, acetylene, hydrogen, carbon dioxide, argon, neon, helium, and other rare gases.

Oxyacetylene welding and cutting apparatus and supplies.

Electric arc welding equipment and accessories.

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General Offices: 60 EAST 42nd STREET, NEW YORK 17, N. Y.
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Offices in all Principal Cities
Represented Internationally by Airco Export Corp.

ATTENTION TELEPHONE ENGINEERS!

American Condenser introduces Bakelite Containers for top or side chassis mounting for Telephone applications.

AMERICAN CAPACITORS

WRITE FOR COMPLETE DATA

AMCON

AMERICAN CONDENSER CO.
4410 North Ravenswood Avenue Chicago 40, Ill.

Commission after both companies, on commission order, submitted a map working out their respective boundaries for the area. (TELEPHONY, Mar. 15, p. 32.)

V V

N. C. Residence Rate Increase Sought by Southern Bell

The Southern Bell Telephone Co. on Oct. 13 asked the North Carolina Utilities Commission for increases in residence rates which would raise revenues an estimated $680,000.

The company seeks to increase residence rates in all of the 64 counties in which it operates in the state from 25 to 50 cents per month, and to increase charges for service connections for both residence and business telephones.

The petition was filed shortly after Southern Bell asked and was granted permission to increase its business and long distance rates by a total of $928,000 in North Carolina. At the time they were granted, the commission termed them "emergency" and "temporary."

No new increases in long distance and business telephone rates were asked in the latest petition.

The following rate increases were proposed: Raleigh, Greensboro and Winston-Salem—increase of from $3 to $3.40 for monthly one-party residence rates; from $2.50 to $2.90 for two-party rates; and from $1.75 to $2:15 for four-party rates. Wilmington and Asheville—increase from $3 to $3.25 in one-party rates; from $2.50 to $2.75 for two-party rates; from $1.50 to $1.75 in four-party rates. A 50-cent increase would be added to the rates at Charlotte, and for all other exchanges a straight 25-cent increase would be imposed on residence and rural residence rates.

WARREN A. MARRISON, member of the technical staff of Bell Telephone Laboratories, who has just been awarded the British Horological Institute's Gold Medal for 1947 in recognition of pioneer researches in the development of the quartz crystal clock.

The company asked increases in service connection charges which would depend on the size of the exchange, and range from $2.50 for residence to $5.00 for business telephones.

The requests cover all items for which the commission did not grant increases recently, the company stating that "actual operations have shown that the rates authorized last year are failing to provide the emergency relief that was anticipated."

"Since present rates became effective, further increases in costs have been incurred, including general wage increases effective last May, and higher cost of materials and supplies," the company said.

V V

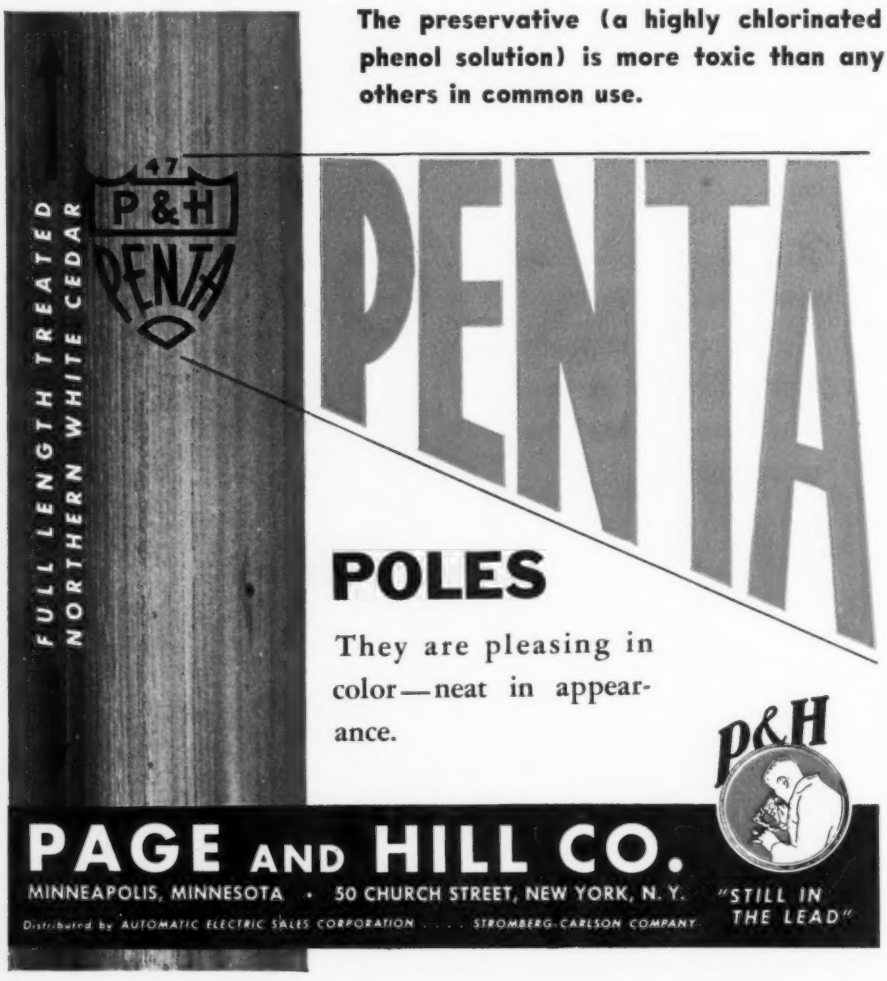
Issues Catalog on Paint for Steel

Rockford Paint Mfg. Co., Rockford, Ill., has just announced the completion of a four-page, four-color descriptive folder on Rockcote zinc chromate.

Titled "Greater Protection for Structural Steel," this informative folder points the way to reducing costly replacements of steel telephone and telegraph poles that have become useless as a result of the formation of rust and corrosion.

Another distinctive feature of this new Rockcote folder is the unique way it is printed with inks matching the three colors of Rockcote Zinc Chromate, ie, red, green, and yellow (the natural zinc chromate color).

While this piece of literature highlights the application of this wartime-developed rust-inhibitive coating on telephone and telegraph poles, it also includes pertinent data pertaining to industrial production, industrial maintenance applications and the protection it gives when applied to civic facilities, oil field equipment, transport vehicles, agricultural equipment, and state and county bridges and road equipment.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PLANT MAN'S QUIZ

By RAY BLAIN

Q. What is the approved method of retinning the tip of an electric soldering iron?

A. Never use a hammer to remove curled points or pits from the soldering copper tip. Reshape when necessary with a file.

The first operation when retinning is required is to file one side of the point until it is bright and clean for a distance of about one-half inch. Next, heat the point until it reaches a solder melting temperature, then quickly file the same side of the point lightly and apply rosin-core solder. Repeat the solder application until the surface is well tinned.

It is a good idea to tin only one side of the point. This action tends to keep hot solder in contact with the surface to be soldered and prevents solder from collecting and dripping on the under side of the copper.

Burning off of the tin can be prevented by touching the tinned side with rosin core solder after using and prior to cooling. It is also a good plan to wipe the heated point with a pad of canvas on similar material before using.

Never keep the soldering copper heated for long periods when not in use.

• • •

Q. In stringing a parallel drop wire 150 ft. in length, how much slack is required?

A. About 48 ins. should be left in medium and light loading areas and about 72 ins. when used in heavy loaded areas. It is not, however, considered good practice to use a drop of this length when it can possibly be avoided.

• • •

Q. What is the most frequent cause of crosstalk in open wire lines?

A. The three principal causes of crosstalk are the "magnetic-effect" between two circuits, the "capacitance effect" between two circuits and "resistance unbalance." Crosstalk can result also from the leakage of current from one circuit to another. Normally, however, with properly maintained lines, the insulation resistance is high enough so that leakage is a minor consideration.

Crosstalk caused by magnetic effect

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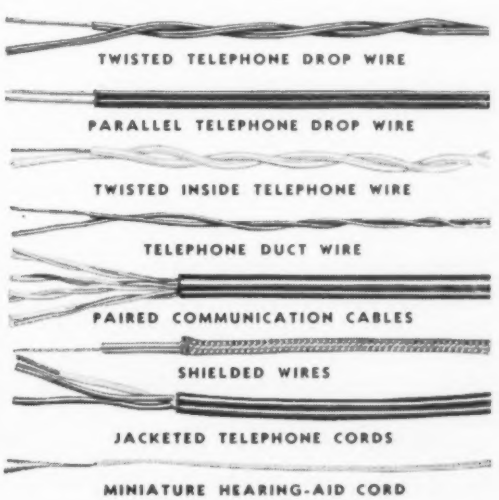

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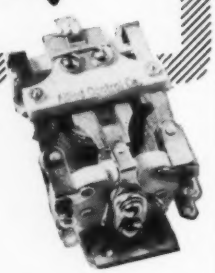

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is due to the magnetic field of one circuit cutting the wires of a nearby circuit. If the voltage induced in both wires of the affected circuit would be equal, the voltages would buck each other and cancel out. This is not the case, however, as one wire is closer to the magnetic field and picks up a greater induced voltage. The difference in potential on the two wires causes a current to flow in the circuit which produces the crosstalk.

Capacitance effect is caused by the difference in the capacity between the wires of two parallel circuits. The unequal spacing of the two wires of the second circuit causes a current to flow, which results in crosstalk.

Resistance unbalance is due to one wire of a circuit having a greater resistance than the other. This difference in resistance may be caused by different gauges, high resistance splices, or defective connections.

• • •

Q. We have experienced considerable trouble in our climate due to steel nails rusting when used to attach wood brackets to poles and to hold pins in crossarms. Is there a corrosion-proof nail available that can be used for this purpose?

A. We suggest that you consider the use of either Copperweld or aluminum nails for this purpose. It is believed that either type will prove suitable to your needs.

• • •

Q. What is the so-called "static ringing generator" and how does it operate?

A. This is the subcycle ringing converter, sometimes referred to as "static ringing converter." This equipment comprises an oscillating circuit designed to oscillate freely at a fundamental of 20 cycles and harmonics thereof. It has a supply circuit for the 60-cycle, AC input and a 20-cycle output circuit. The supply and output circuits are coupled to the oscillating circuit. One size ringing generator of this type has an output of 0.2 amperes of 20-cycle ringing current continuously at 75 to 90 volts, and it will handle temporary overloads of 100 per cent.

• • •

Q. Is there any means by which wire singing can be prevented on an open wire-line? We have some subscribers who complain of this humming in winter where the line passes near their homes.

A. This trouble usually can be remedied by the installation of vibration dampers on the line. Wrap an 18-in.

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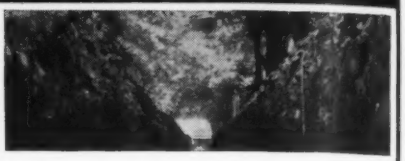

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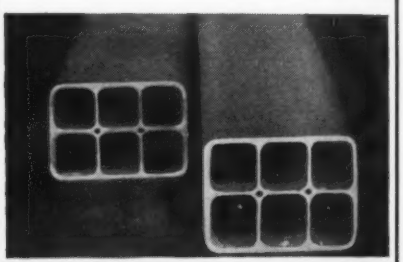

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length of drop wire around the line wires at the insulators on alternate poles in the offending section of line.

• • •

Q. How many people can view a home type television receiver at one time?

A. This depends upon the size of the screen, but an average of from six to eight people can view the ordinary home set. With this number, there is no crowding and everyone is able to see the screen clearly.

V V

Electric Products Co. Appoints R. J. Peck

Gordon J. Berry, vice president of the Electric Products Co., announces the appointment of Robert J. Peck as district manager of the company's New York office, 126 Liberty st., New York City, Oct. 1.

R. J. PECK

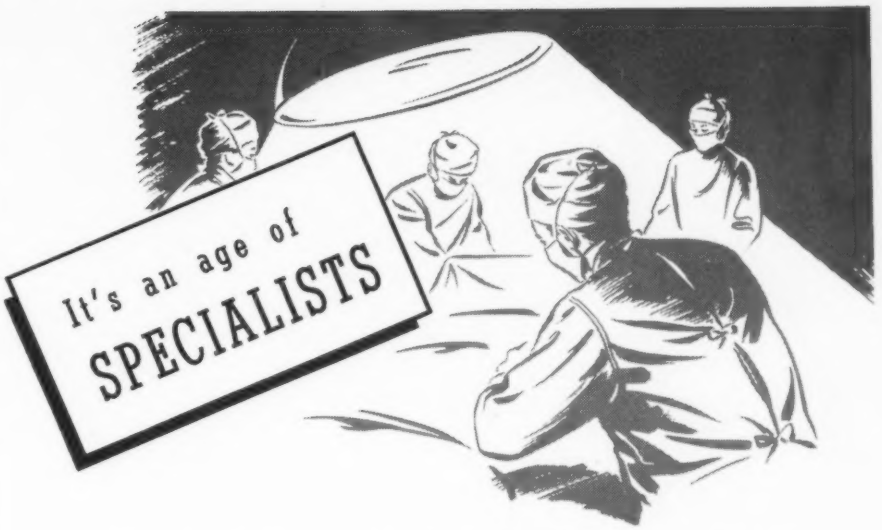
Mr. Peck will handle all sales and service negotiations in the territory which consists of the New England states, eastern New York and Pennsylvania, New Jersey, Delaware, Maryland and Virginia.

A graduate of New York University in 1930, Mr. Peck since then has been actively engaged in the selling, engineering and servicing of electrical products. He joined the Electric Products Co. in May, 1947.

V V

Stromberg Wins Award for 1946 Annual Report

For the fifth time in as many years the Stromberg-Carlson Co., Rochester, N. Y., has been given one of the coveted "highest merit" awards by *Financial World* magazine, the publica-



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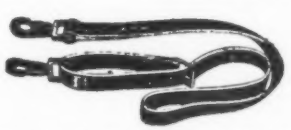

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T. M. Partridge Lumber Co., Minneapolis, Minn.—Northern White—Western Red Cedar Poles, Plain or butt-treated.

Wood Products Co., American Bank Bldg., Portland, Ore.—Creosoted Douglas Fir, Larch, and Lodgepole Pine Poles.

tion which annually judges stockholder annual reports of national manufacturers.

In a letter to Edwin C. Roworth, company secretary, Editor Weston Smith congratulated Stromberg-Carlson for the excellence of its 1946 annual statement. The thousands of reports judged in the survey were weighed, he said, from the standpoint of content, format and typography. Mr. Roworth and David S. Cook, sales promotion manager, edited Stromberg-Carlson's prize winning report.

Mr. Cook represented the company at the annual presentation dinner at the Hotel Pennsylvania in New York City, Oct 10.

V V

Onan Issues Catalog on Electric Plants

A new 16-page catalog covering their complete line of electric generating plants has been issued by D. W. Onan & Sons, Inc., Minneapolis 5, Minn.

The catalog describes electric plant sizes ranging from 350 to 35,000 watts AC in all standard voltages, frequencies and phases. If direct current of the "direct service" type is required, selection ranges in 115-volt models run from 600 to 10,000 watts and in 230-volt models from 3,500 to 10,000 watts. Battery charging plants are also described.

Accessories for easier handling and better installation are described. These range from two-wheeled dollies and guard frames to automatic control panels and underground fuel tanks.

V V

IT&T Appoints Hatton

The appointment of William Hatton, a leading engineer in the field of international telephone communications, as director of manufacture of the International Telephone & Telegraph Corp. and its world-wide manufacturing and sales affiliate, the International Standard Electric Corp., was announced recently by Col. Sosthenes Behn, president of IT&T. In his new post, Mr. Hatton who has been associated with IT&T and its affiliated companies since 1919, assumes, in addition to his present duties as director of engineering, full responsibility for the system-wide coordination and development of manufacturing methods.

V V

Appeal Commission Finding

An appeal from the Indiana Public Service Commission finding which granted the Indiana Bell Telephone Co. a $3,000,000 annual rate increase was filed Sept. 13 by James M. Dawson, Indianapolis attorney, on behalf of 16 plaintiffs. (TELEPHONY, Aug. 23, p. 22.)

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